

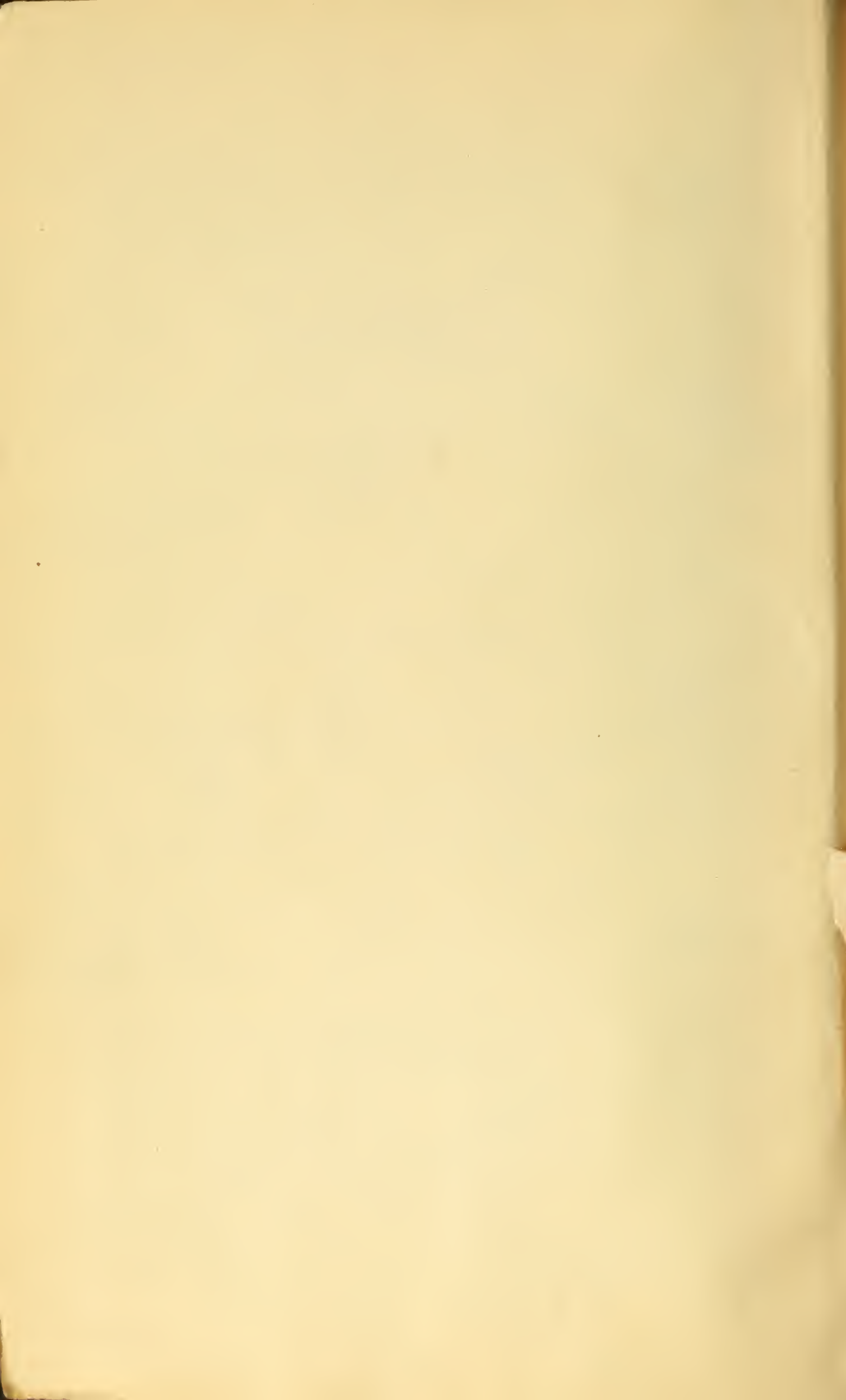


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THE SCIENCE AND CARE OF THE HAIR AND NAILS

A TREATISE UPON THE RECOGNIZED
MEDICAL PRINCIPLES OF THEIR
SCIENTIFIC CARE AND CULTIVATION

A MANUAL
OF PRACTICAL APPLICATION

BY

HOLWAY DEAN FARRAR, M. D.

ILLUSTRATED

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PREFACE.

SCIENTIFIC care and cultivation of the Hair and Nails is the most important cosmetic problem of modern life. In the past, the subject of Hair and Nail growth and health was submitted solely to the pseudo-scientific knowledge of the Hairdresser or Manicurist; or the injudicious application of proprietary hair, scalp and nail preparations was resorted to, with frequently disastrous results. Today it is recognized that the scientific care and cultivation of beautiful Hair and Nails lies entirely within the domain of modern medicine.

There is no royal road to the desired end; nor does success crown the particular and limited methods of a favored few. To believe that a healthy, lustrous crop of hair is to be found in a bottle of medicine or a jar of ointment is as inconsistent as confidence that a diseased scalp may be restored to normal health by the extremely dangerous practice of massaging it, thereby aggravating any existing unhealthy condition, and spreading the disease over the entire cranium. *Common sense* advises that the wisest treatment con-

sists in taking only that which is good from the different methods, and combining them into a perfect whole.

This we have endeavored to do.

We believe that a few minutes of time daily devoted to the systematic care of the Hair and Nails, with a careful observation of the laws of hygiene, and with the application of proper remedial measures, will insure nails that are beautiful and hair that is natural in color and normal in quantity until practically the end of life.

H. D. F.

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CHAPTER I.

A REVIEW OF COSMETICS.

No age, however uncivilized or barbarous its people, has ever been lacking in a true appreciation of physical beauty of both sexes, this appreciation at times becoming almost a religion. When Thebes' seven gates were modern improvements, and the pyramids yet unfinished, cosmetics of a comparatively high order were practiced in Egypt, and antecede those of any other people of whom we have knowledge. The early Greeks had their Aphrodite, goddess of Beauty and Love, before whose altar they burned incense and offered prayers and sacrifices. For the sake of their remarkable beauty, the lack of morals in Sappho, Phadre, Phryne and many others was forgotten or condoned. Unto the Greeks, the most enlightened of all ancient peoples, we go for our first great Philosophers and Poets, Painters and Sculptors, our first great Statesmen and Warriors. The early Roman history as regards beauty worship is much the same as that of the Greeks. It would be interesting to the student of cosmetics to know how many fair women and brave men, when nature failed or grew weary, came to her assistance with skilled finger and quick brain. While those nations lacked the benefit of the scientific knowledge in the use of cosmetics that is ours, they accomplished wonders indeed, considering what material they had at hand and the ages in which they lived, for cosmetics in their time were more primitive in their composition, as can be readily understood.

In early Egyptian days, the arrangement of the hair among women of all classes varied only as to the ornaments worn; those who could afford it wearing rich

jewels, the less fortunate contenting themselves with simple garlands of flowers. The style most general was the braided hair, hanging down either side of the face, with jewels or flowers entwined in the plaits; or cut to hang loose on the shoulders with a straight fringe across the brow. They frequently washed the hair in a charcoal solution which they believed made it much blacker than was its wont.

Although the women were usually supplied with long, lustrous and straight, but rather coarse hair, scalp physicians, wig-makers, and hair specialists were not unknown. Those who were by some unkind fate reduced to wig-wearing or using false braids, first exhausted every other means of promoting hair growth. Fancy sending for your scalp physician and having him prescribe pulverized dog's foot — (dogs were plentiful in Egypt) — and date kernels, or ground donkey's tooth and wild bees honey, to be applied next full moon! Or if not content with this, call in your particular sorceress or worker of magic, and be told to apply a spider's web to the crown of your head for ten days; the sorceress or man of magic meantime to do the rest — this of course being shrouded in deepest mystery. All of these methods were employed.

The women were given to the use of facial cosmetics, painting their lips a vivid scarlet. They were unique in the use of face powders, not using, as most women would, a white or tinted powder, but one composed of charcoal and antimony, outlining the brow, cheeks, and chin with this black composition, against which the whiteness of the skin stood out in startling contrast. The eyelids were painted with a black pigment, the line or band extending across the temples to the roots of the hair, and the lower lid being heavily outlined. The Egyptian women had naturally large eyes, and one can imagine the effect of

this cosmetic art which made the eyes the dominant feature.

Both men and women used great quantities of oil on the body, no bath being complete without the final rubbing in of highly scented olive oil. The men sometimes used the pigment for the eyes, and were not considered effeminate. They were equally faithful in the care of the hair, which growing very thick, was worn short and uncurled. The face was closely shaven and massaged, and false beards were worn. The styles of wearing the beard varied in shape between round, oblong, square or somewhat rectangular; and the beard was attached to the face by an adhesive gum. When the beard was full and covered lower cheek and jaw, it was attached by a thread or thin gold wire looped over the ears. The upper lip was always clean shaven. The men at times rivalled the women in their use of perfumes, pomades, and heavy spicy scent. They took much care of their hands and feet, usually abjuring any covering whatsoever for the latter. The finger nails were worn rather pointed, and stained with henna, which gave them a rich orange hue.

Among early Romans the men wore their hair short — that is to the nape of the neck — and trimmed close over the ears. Men of all stations wore a band of cloth an inch and a half to two inches wide bound round the head and tied in a double knot at the back, the ends flowing free. The color of the band was usually purple, sometimes a bright yellow. Close cropped moustaches and long beards were effected by older men; while the younger men were invariably close shaven. Among women, blonde hair seemed to be the color most desired; and those not so blessed by nature, painted their hair a bright and glowing yellow, using for the purpose an ochre powder. This was carefully washed out each morning, to be again ap-

plied in the evening. The frequent washing and consequent dampness of the hair caused it to fall, and many Greek and Roman women had eventually little, and in some instances no hair. Wigs then first came into fashion; or for those ladies to whom some small amount of the "crowning glory" had been left, its length and thickness was augmented by adding false braids or puffs and curls. Even in that day "rats" and transformations of false hair were known; and we can imagine that these ladies moved with much caution, rather than suffer the embarrassment of leaving these adornments scattered in their wake; for the means of securing them to the head was not so perfected as it is today. It is stated that as many as five hundred curls might at times be counted on the head of a Roman matron. These were as a rule piled high and extended forward; so that viewing the lady from the front she looked quite tall, whereas, from the back, she was pigmy-like in comparison.

The Greek women wore the hair more close, conforming as nearly as possible to the natural shape of the head. As many of them were natural blondes, bleaching was not so much in evidence; but they curled and waved their hair, and when completed, wore a small filet cap of gold, silver, or silk mesh to add to the beauty of the arrangement, and at the same time secure the coiffure in place. The curling iron served the same purpose on the toilet tables of these beauty loving women of semi-civilization as on those of the more enlightened women of our own day.

Both Greek and Roman women, as early as two thousand five hundred B. C., used minium (a red lead oxide), to paint their lips and cheeks. Large and brilliant eyes seem to have been a feature of great beauty in all ages, and for the purpose of enhancing their largeness

and brilliancy a black pigment was used to outline the lids and lashes.

Blue veined temples were thought most beautiful by Roman and Greek; and these were often faintly traced with blue, a tiny silk-like feather being used to delicately apply the color.

Ground and powdered rice were used freely to whiten the face, neck, and arms, while complexion masks were worn, composed of a dough of almond oil and rice, or almond meal and olive oil. Each morning the face was carefully massaged in warm olive oil. Asses' milk was a luxury, and many wealthy women kept great herds of asses, that they might bathe in the warm milk each morning. Beautiful indeed must have been the skin so carefully tended, white and firm as sculptured marble and of a wonderfully velvet-like texture.

Much attention was given the nails. Manicuring instruments were few, and crude to our understanding; a small, quite sharp, rather long handled knife being used to cut the nail; after which it was highly polished with a white, clay-like substance. The cuticle was left to grow and adhere naturally to the base of the nail. It is not to be thought that the men of this time neglected to take advantage of these cosmetic facilities. Their hair was as carefully curled, pomaded and oiled as that of the ladies, and they wore chaplets of flowers or jewels wound round the forehead. Baldness was less prevalent among men than women, due no doubt to lives spent more in the open, and the less common usage of the headdress. The men had their war-bonnets and helmets it is true, but indulged in *occasional* periods of peace. They were very athletic, and took great care of their bodies, paying much attention to their feet, and carefully trimming and polishing the toe nails; and they did not hesitate to use powder

and rouge if the fancy so took them. Both Greeks and Romans usually wore the hair long, or to the shoulders; and the older men wore beards neatly trimmed in round, pointed, or square form.

Among the Turkish women false hair was used profusely; and as they were not generally blessed by any superabundance of hair, great braids of it were attached to their own. Wigs covered the entire head and hung in yard long plaits over the shoulders, or down the back, or were sometimes piled high on the head. Numerous ornaments were worn. Strings of beads, or coins strung into chains, were bound round the forehead; bright bits of silk and ribbons were plaited into the braids; and flowers and jewels of all sorts adorned the head. They rouged the face, with a much darker red for the lips; and instead of painting the lids black, used a very dark green pigment, which must have looked odd indeed, and very striking against their rouged faces. Like the Egyptians they used henna on the nails, and sometimes darkened the front teeth. The men were more fortunate, possessing very thick, straight black hair which they wore close cropped, and very luxuriant beards and moustaches, which they kept oiled in order to give it the gloss it would otherwise have lacked. Turbans or long straight pieces of cloth of bright color were worn bound round the head in graceful folds.

The study of the toilets of *Moorish women* presents something of a contrast as compared to the Egyptian and others. Many historians and writers on the subject agree as to the wonderful beauty of these women, not always tall, not always slender, but ever light of foot and with the free grace of movement and carriage of the desert born. They were at their best, both men and women during their occupation of Spain. They neither painted nor

powdered; and glorious indeed must have been the hair of these amber skinned beauties — long, thick, and of a silky texture, with sometimes just the suggestion of wave or curl; usually intensely black, but sometimes a rich dark chestnut; and worn loose and flowing, bound only round the forehead with chaplets of flowers or jeweled bands. Beautiful indeed were their softly glowing eyes of brown, mystic, deep; and small, sweetly curved, gently smiling mouths, requiring no art to make them the rosiest lipped women of all nations. Regular, pearly white teeth were not the least of their charms.

False hair was never worn by Moorish women, a superstition existing that if they attached the hair of another to their own, a curse would fall upon them. To send another a lock of hair was a token of surrender or submission. And a cleanly race they were, preferring rather to go hungry than without the daily bath. They were very fond of heavy perfumes. The men are described as darker skinned than their women; tall and lithe of limb, swift moving and silent, with extremely thick heads of hair and long thick beards, and moustaches close cropped to outline the upper lip. The hair of both Moorish men and women was given every care, hours being spent in brushing and smoothing the hair of the head. The men would sometimes put their beards in plaits on retiring, either to give a slight wave or to prevent tangling. Their hands were extremely well kept as were also their teeth.

It is difficult to adequately describe *the women of early Italy*. One cannot do so collectively, as each province had its individual costume and custom, its independent King, Prince, or over-Lord. The united Italy we know, is a far cry from the Italy of the tenth century. It is stated, however, by many authoritative historians and chroniclers that the use of cosmetics was well known

among the women of the different principalities. They rouged and powdered their faces, darkened their eyebrows, and took advantage of any new idea that was advanced to tempt them to the further enhancement of the natural charms they are said to have possessed in such abundance.

From what can be learned from careful research beginning with the tenth century, their hair seemed to have been their greatest pride, and to have received every care and attention in keeping with the cosmetic knowledge they possessed at this early age.

The arrangement most favored was that of parting the hair in the middle, brushing it back from the temples, and confining it at the nape of the neck with a jeweled brooch, or one of plain gold; or oftentimes with a ribbon of bright silk. From the nape of the neck it was allowed to flow free its entire length. A few curls were left to cluster naturally over the forehead and ears, and bands or chaplets of jewels and flowers were placed above these, encircling the head. Graceful and artistic if the lady had sufficient hair, but if she had not, then false hair was resorted to, and another style of arrangement came to her assistance. The artificial hair was arranged in plaits or braids, and wrapped closely around the head over her own scant locks, a fillet of gold or lace mesh was placed upon the completed coiffure, and with the addition of a rose coquettishly placed, she felt safe from discovery of the practiced deception.

A period of neglect as regards these so-called vanities, ensued as a result of the ravages of the plague in the fourteenth century. The clergy vigorously condemned all personal adornment, and the people were in a state of terror and fear. The priests declared the plague a judgment of God, visited upon them for their worldly vanities.

However, in a few years, the pride of the Italian women reasserted itself, and we are able once more to find them in all their sumptuous beauty, both God-given and acquired. During the life of Titian, 1477-1576, blonde hair was again the fashion. This wonderful artist, whose fame will last as long as time, chose for his models women with red, red blonde, or golden blonde hair. Consequently the Venetian women made every effort to secure unto themselves this coveted shade of hair. They were long-suffering and patient, undergoing tortures in the cause, and the blonde hair vogue eventually spread to Milan, Naples, Florence, and throughout Southern Italy.

The method of bleaching was simple but required fortitude and courage. In many dwellings in southern Italy the roofs of the houses were used to a greater or less extent as sun parlors; and if not the roofs, then un-roofed enclosures wherein the sun shone brightly. The determined lady would sit for hours during many consecutive days on the roof or in the enclosure, saturating her hair in a solution of soda and water, salt and water, or saffron solution, whichever she deemed most efficacious; letting it dry and immediately saturating it again until the desired shade was obtained. During this period of "Titianizing", Milady was not visible to callers.

And so it continues with little change, albeit a more marked individuality in costume. The women of United Italy of today are much the same as their sisters the world over, more or less slaves to the prevailing fashions.

However, for freakishness in cosmetics and fashions of coiffure, one must look to *the early English men and women*. They borrowed fads and fashions, willy-nilly from all nations and all races during a period of eight hundred years. Commencing with the tenth century on through many successive reigns, one gets a kaleidoscopic

view of the hundred and one fashions that flit back and forth through the pages of history. Each succeeding king or queen brought with them their different style, which lived its short day and was replaced by another.

The early Norman women remained faithful to their wimple, (an arrangement resembling a nun's coif) for more than a century, the longest period known for any one fashion. Under this confining band of white linen, the hair was coiled and tucked and pinned until the only remaining evidence of hair would be a rebellious lock or two, which would escape upon the forehead.

Despite constant warfare the men found some time to devote to their beards and hair. If the women looked odd in wimples, how much more so did the men look with the backs of their heads clean shaven! William the First brought this fashion into England, but it was short lived, and happily so, as it had nought of grace or beauty to commend it.

Close in the wake of the shaved heads, followed the fashion of many ringlets and long flowing beards and moustaches; the former, at times, reaching below the waist.

Much washing, combing, brushing and pomading was indulged in by the men, and the use of highly perfumed pomades finally won for them from the clergy the contemptuous term of "scented goats". However, as a result of this careful attention to hygiene, the hair soon grew long and of a much finer texture. And finally, the Norman gentlewoman shocks and astounds her lord by appearing before him wimple-less. The first brave lady must have been happy in possessing an ample quantity of hair; and a very pardonable vanity will suffice as an explanation for a revolt from a most unbecoming fashion, a century old. One can imagine the change being a most

satisfactory one; and while bidding a willing adieu to the wimple, welcome the new fashion of the hair hanging in long braids, on each side of the lady's head, giving to the face a softer and more womanly contour. Later, after the disappearance of the wimple, when the ladies discovered their locks to be scanty, what more natural than they should supply the want by adding false braids? these false braids, or casings, falling in many instances to below the knees. As with the men, the change necessitated greater attention to the care of the hair, which eventually caused it to grow long and soft and very thick.

A few years pass and we find the men wearing their hair brushed back from the face, parted carefully in the center, and one thick lock brought forward from the crown of the head to fall over the dividing line so that its free end lay lightly on the forehead. Some wore beards and moustaches, and others went clean shaven. At times it would seem the men grew tired of the careful grooming; and we see the hair worn close cropped and the faces clean shaven.

Again the wimple appears with its stiff ungraceful folds, and women's chief adornment is sacrificed to the ruling of custom; nor does it again make its appearance for a century and a quarter. The only difference from the old style wimple being that the hair flowed loose under the long concealing folds.

For a time men followed their own individual fancy, and many were the modes of hair dressing to be seen, Some wore the hair long and many affected flowing ringlets with moustaches and beards. Others wore the hair close cropped and their faces smooth shaven.

It is well to note here that in all the years covering the reign of many kings, head coverings were rarely worn

by the men; and to this, no doubt, the thickness and general good condition of their hair was due.

From many well preserved plates and cuts of this time, one finds no change has taken place in women's costume. The eternal wimple and the long straight robe seem to be the universal fashion. A few kings have come, ruled for a little space, and left their mark on history's pages, to be succeeded by another who in turn did his best — or worst. And, we find the ladies rouging, for almost the first time in English history. First but faintly touching the lips; only to realize the beautifying possibilities, and then beginning to paint the cheeks, and to powder their faces, and even to darken their eye brows and lashes, for one cosmetic would seemingly call for another. This rouging, possibly, was a revival of a custom once common among the early Britons, who painted their faces, arms, necks and chests with wode, (a substance derived from the blue wode flower), or sometimes with saffron. Or, it may have reached them, tardily to be sure, from the Egyptians, Greeks, or Romans, who had known of it for centuries.

One sees in this first use of cosmetics by the ladies of this time, a forerunner of many changes that are to follow. Give the ladies a rouge pot and a powder puff and we will soon learn that the day of simplicity has reached its gloaming. For milady, to be in keeping with tinted lip and blooming cheek must necessarily adopt many other odd and sometimes ridiculous fancies. Women are rarely content to accept half measures.

There is also a noteworthy change in women's coiffure. The Queen wore her hair most elaborately coiffured at all times, and her favorite arrangement was to part the hair in the middle, brush it forward on each side of the face, and push it, (unplaited) into two cases, circular

in shape, bound to the head by a fillet of gold. These cases were of gold fret work, ornamented with precious or semi-precious stones, and were very costly.

Again the hair was loosely coiled and placed in a bag of gold wire and jewel work; or sometimes in two plaits or braids, arranged on each side of the face and held in place by a fillet. Sometimes the plaits folded straight down from the parting in the center, over the ears; and a small cap of gold wire was placed at the back of the head. If the hair was allowed to flow loose, a wimple was worn. Just as one is prepared to breathe a sigh of relief, it is abruptly checked as Madame Wimple is announced. One could easily imagine these ungainly headdresses influencing English politics. Kings come and kings go for some quarter of a century; and we again bow Madam Wimple out, and yellow hair again is much in favor.

The Roman women adopted it from the early Teutonic natural blonde, and the English women in turn found it equally irresistible. Bleaching with saffron and quince juice was resorted to in order to obtain the chosen color, blondes being in the minority. However, one is pleased to learn that the ladies had still some hair left on which to work this chemical change.

The now reigning king is a leader of fashion. (When has a king not perforce been so?)

But this one was lenient with his subjects in the way of fashions, fads and preferences, and every form of moustache and beard was worn. The hair was worn long, touching the shoulders, gracefully curled and pressed at the ends. A band of real or artificial flowers graced the heads of the beaux. Hoods or "chaperons" were worn, tied about the head with a liripipe, a long strip of material corresponding to that of the hood and attached to the crown or top of the hood; and this strip was at times two

or three feet in length, with the ends wrapped around the neck. Later, when unwound, this unique affair reached the ground. Sometimes it was swathed about the head turban fashion, the free short end slipped through a fold and left to stand out like a cockscomb. We still see what remains of the liripipe worn as a cockade by footmen and coachmen.

Women have ever been ruled by fashion, and in this reign were slaves to it. Is it not difficult to imagine a fashion which decreed the plucking out of eyebrows, and shaving the back of the head? But that this fashion was submitted to by the majority of the fashionable women of this reign, is vouched for by many historians and writers on costume and custom of the English. There is no other feature that lends so much to facial expression, and softens the contour of the face, and is such a necessary complement of the eyes and nose, as the eyebrow; and yet these were unhesitatingly sacrificed that Milady might not be a second behind her sister in keeping pace with the so-called smart fashions of the day. And those dainty curling tendrils that snuggle so softly at the nape of the neck — they too went the way of the eyebrow.

The hair was dressed in tight plaits and twined round the head, over which a caul (a bag of gold net and jewels) was worn. This left the back of the head bare, from which all hair that might be exposed was carefully plucked or shaven. The more sensible women wore the hair long and softly waved or curled, and hanging freely on the shoulders. The brow was encircled by a chaplet of flowers or (an idea adopted from the Greeks) a plain circlet of gold was substituted for the flowers. The ladies also wore the hood or chaperon, with the liripipe for out of doors.

As we move further along in the hair history of the

English, we find them at times, (according to our own idea of the fitness of things) really sensible. The men are now wearing the hair much in the style of our own present day, close cropped and brushed back from the forehead, or curled and worn to the nape of the neck.

The beards were dressed in one long point, or parted in the median line of the chin and arranged in two sharp points. Many faces unadorned by moustache or beard, might be found in any assembly.

The court ladies enjoyed equal freedom as to head-dress. One would have her hair covered with a caul of gold wire or cloth of gold, with perhaps a few ringlets lying on the forehead. Many wore the hair cut short, with a profusion of curls and ringlets simply confined about the forehead with a circlet of gold.

With the cheeks and lips tinted, and faint blue cosmetic shadows on the eyelids, one can appreciate that this fashion was attractive and suitable to many faces.

Henry the Fifth introduced the fashion of wearing the hair shaved for an inch or so above the ears, and encircling the head, the remaining hair very close cropped in a fashion resembling a priest but without the tonsure. Naturally with this style of hair cutting one finds the clean shaven chin and upper lip. As there is nothing new under the sun, it would be difficult to trace this fashion to its real source.

The pen fails one in any attempted description of fashions for women of the fifteenth century. Good taste is banished in their defiance of former restrictions.

There is absolutely no hint of hair, not even one little rebellious tendril; all are laboriously tucked, folded and pinned away under headdresses of every conceivable shape.

As we proceed, many strange sights are presented.

From William the First to Henry the Eighth, fashion is like a swiftly moving shuttlecock. There are few remarkable changes, it is true, but they are confusing in that they flit back and forth with such frequency.

With the advent of Edward the Fourth the priestly fashion of wearing the hair went out, and roundelet hats and caps came in; and with this fashion of hat, came again the long hair, worn much in the manner of our own little folk, the familiar "Buster Brown" or Dutch cut with a deep straight fringe on the forehead. Those, whom we would designate as beaux or dandies, wore the hair much longer and brushed out in a "bushy" effect in the back; clean shaven faces were the hard and fast rule.

One may have all the reverence and respect necessary for one's ancestors and yet not be blind to their faults and foibles. In Richard the Third's reign fashion is extremely quiet, going about on tip toe as it were and speaking in undertones. The headsman was fully occupied with his affairs, and the thoughts of men and women alike dwelt less on fashion and more on the condition of their souls. Men were content to wear their hair dressed simply. There was little pomading and perfuming of locks at this period. The fashion was for long straight hair and small black stiff brimmed velvet hats or caps. Clean shaven faces were universal. The reign is marked by the passing of the wimple, gorget, hennin, caul, and other ungraceful headgear of linen, silk, buckram and tow padding; and by the birth of the bonnet.

The hair was brushed back smoothly from the forehead and fastened securely in a coil at the back of the head. All the hair was plucked from the forehead and eyebrows, and a tube shaped bonnet was placed at the back of the head, over the coil of hair and supported by it. Two wings of transparent linen stitched on wires to form

a V shape (the point on the forehead) were fastened over the top of the head by a linen fillet. Lower down, just above the ears, were two other wings in addition to the V, thus giving the lady's head the appearance of a great gauzy winged butterfly. This is the only picture to be given of this strange bonnet, without the aid of a drawing. The bonnet was in favor for some time, but eventually went the way of all headdress. In the succeeding reign it was supplanted by another and yet more fanciful head piece.

The hair is now parted in the center and brushed smooth on each side, and exposed almost to the crown of the head. Over this and falling down the back is a headdress of black silk, the top stiffened to resemble a sloping houseroof, the front edges lying at each side of the face and sewn with pearls or banded with color. Young women were allowed to wear their hair long and flowing naturally over the shoulders and down the back.

Another style of headdress was the loose topped bag-like turban, gathered onto a jeweled band, which fitted closely to the forehead.

Master of many vanities, with an educated taste in wives, possessing much personal charm but little kingcraft, was Henry the Eighth — Henry of the curled hair and full fine beard and moustache. However, he demanded that no one fashion of beards and hair dressing be the rule. The hair was worn long or short, and there were many styles of beard and moustache, but clean shaven faces were frequently seen.

Any attempted description of the many headdresses for ladies of this period would be but a repetition of those already given as pertaining to the previous reign. One, however, adopted from the Germans, may be mentioned as new. The hair was braided and twisted and tortured,

and so forced into a stiff gold wire net or draped into a velvet bag or pouch; and when so arranged it stuck out most ungracefully in a great bun or knot on the back, or at the side in unsightly eminence. Over all this was worn a small crowned hat, with a rather wide upturned brim, having many jewels and feathers attached at an angle. Thus was woman's greatest charm twisted, tortured and tucked away for many years. One wonders they were not all bald as a result of this unhygienic treatment.

When Mary, Queen of the Scots, entered London in 1553, she found the streets filled with foreigners, come over with Phillip. And with these, of course, many (to the Londoner) new and strange fashions, which later had their effect on the court dress. Moustaches and beards were very fashionable, especially short, close cropped, round beards, or beards trimmed in two points, with waxed and pointed moustaches. The hair was worn short, much the same as it is today.

The ladies show more of their hair, of which little has been seen since the reign of Henry the First in the eleventh century. Although they still cling to the bonnet, but without the side band or fillets.

The Elizabethan figure is familiar to the reader, no doubt; but as there are ever a few oddities, which, if not given particular notice, would be overlooked, it is best to mention some of the more interesting. Elizabeth was ever fond of display and fine dress, and many were the ringletted, pomaded and perfumed dandies to be met with at her court. The court gentleman, as a rule, wore a small moustache, and a pointed beard; and one great egg shaped pearl would sometimes be seen dangling from the left ear. One could find by looking close a faint trace of rouge on the gentleman's cheek. Another would wear his hair cut in three points, one over each ear; the third curled

into a lock, tied with a dull hued ribbon, and falling on the center of the forehead. He, too, is furnished with a moustache, and small round beard.

The ladies took a fancy for the wire head frame over which the hair was dressed, false hair, and bleached hair and wigs of every description; all dressed with feathers, gold wings, strings of pearls, and ornaments of glass.

Elizabeth had a decided penchant for red hair and was never seen without a wig of this color. (We have reason to believe her Majesty's own locks were but scant and of no positive shade). No doubt what beauty the "Virgin Queen" possessed, depended largely on red wigs and cosmetics.

Her chemist was most skilled in the making of face powders and rouges. It is said when Elizabeth's face was made up with these cosmetics it closely resembled a mask. Her wigs were arranged in tight red curls, with an overdress of many pearls and jewelled ornaments. One is surprised to learn that a street known throughout the civilized world, derived its name from a wig made by Higgins, (the fashionable wig maker of the period) which he called the Piccadillie. Thus do we get Piccadilly. But he, poor man, was gathered to his fathers too early to benefit from the honor bestowed on him by his famous patroness.

We are now at the period in which Vandyke won everlasting fame. He has left us, through the agency of his facile brush, many portraits and paintings of the men and women of his day; a day of much beauty and art in costuming and grace of movement, for much of the stiffness of the former reigns has vanished.

The long flowing hair of the men would seem to have curled naturally, so carefully and with such consummate skill was the curling done over heated clay pipes. We of today are familiar with the Vandyke beard. The mous-

tache was parted in the center and brushed smoothly toward the outer corners of the upper lip; and then waxed to a sharp point, to be in keeping with the beard. Sometimes the hair had a tousled appearance, but it was the tousledness of artistic fingers. At no previous period was so much time and attention given to the care of the hair and beard. Each day brought a careful and thorough brushing and combing, followed by a rubbing in of highly perfumed oil, which gave the hair and beard a beautiful lustre.

Beauty patches came into fashion with Charles First, and were of many shapes. Women have always shown much fondness for these quaint little patches symbolical in so many ways.

There was a patch language not to be equalled by the flower language or that of the fan and kerchief.

The ladies now part the hair above each ear, and it is gently waved to fall over the ears. The portion on top is brushed smoothly back from the brow, to be rolled in with the back hair and pinned in a roll at the back of the neck, where a plume is placed standing upright or at an angle on either side.

The hair, at this time, demanded much attention, and hair tonics were used freely. The centuries of close wimples and tight airless headdresses had so smothered the hair, that little vitally was left. The women had just begun to realize the havoc these monstrous affairs had wrought on their hair and to look about them for remedies.

When the softly curling tendrils on the forehead, and the love locks, came into fashion, the ladies were forced to consult with wig makers and hair dyers. However, whether artificial or natural, we are grateful for the change. The hairdresser of this time was a personage

one could not afford to reckon without — and with good cause. He did much to make women more pleasant to look upon.

With the Cromwells came sombre changes, and carefully dressed hair; long flowing locks, ringlets and love locks, were all religiously tucked away under severe hats for the men, and close fitting caps for the women. Eleven years of tonsorial restriction endured, with the result that many snug sums were laid by which were later to be dissipated at the court of Charles the Second.

And with the coming of Charles, Milord and his lady once more breathed freely, and laid in a supply of wigs, ringlets, hair oils and pomades. The shadow had passed, and if not forgotten, was placed in the background. Wig makers, hairdressers, and hair dyers hold the foreground, bestirring themselves on behalf of their patrons and for a time there is little rest. The perfumer, the powder and rouge chemists, are seeking material far and wide; and everyone is offering incense on the altar of fashion. Periwigs, those beautiful affairs of false hair, all curled, waved and ringleted, falling to the gentleman's waist in the back, and far down over the ears, were so carefully dressed, they became at once the pride and despair of the serving men, or valets.

There is a small moustache and small beard that as yet lay but as a shadow on the underlip. Many odd fancies, fripperies and vanities go to the making of a gentleman of the court of Charles the Second.

The ladies have laid aside the stiff headdress with which we are familiar and the hair is now worn in a mass of huge curls dressed over a frame by the ears, with short, cunningly arranged, little love locks on the forehead. The back hair is done into an intricate knot of many loops,

waves and twists. The lady, too, wears a beplumed hat the exact counterpart of her brothers.

The more fanciful lady wears her hair down, so that the ends fall on the shoulders and has it curled all over in loose ringlets, and wears a round velvet cap. Beauty patches, powder, rouge, and no waist to speak of, so small has it become, complete the most chic beauty of the age.

To be without a periwig, peruke, campaign wig, pole lock, or dildos, during and after the reign of William and Mary, was paramount to being undressed, so necessary a part of the costume had these many articles, composed of false or artificial hair, become. It is difficult to call to memory any one part of dress which received so much care and attention; and one can readily believe that, if a choice were to have been made between wigs and shoes, one could have seen many barefooted men and women. A fine wig was the aim and ambition of one and all. William and Mary ruled England, but the wigmaker ruled king, queen, and peasant alike, and was the one great leveler.

Heretofore, the poorer classes had evinced a stoical indifference to fashion, but with the arrival of the wigmaker the old order changed, and one touch of wig magic made all men kin — at least in their desire for possession. Many pen pictures might be drawn, and no one resemble another. There are wigs in a riot of curls, with ringlets over the shoulders and down the back. The brown wig, unpowdered, was worn by the unassuming gentleman (if one such could be said to have existed at this period). Many wigs were powdered with meal and flour — this was before the hair powder had been discovered in the gray mud of a certain road, (which after being dried and pulverized became a snow white). Gentlemen were frequently to be seen at public functions combing and brushing their periwigs and incidentally showering their neigh-

bors with a cloud of white powder; who in their turn could take consolation in being able to pay the debt in kind, if it so pleased them.

For riding there was a special kind of periwig, less curled. For traveling, a campaign wig with dildos; such wig being full over the ears and upper side of the forehead, without the two wing shaped curls, usually dressed in single pipes, and hanging down over the shoulders in front. This ended in a single pipe in the back, tied by a ribbon, and was sometimes called bob wig. Moustaches and beards had for the time disappeared, and only smooth shaven faces were to be seen.

In comparison with the men, the ladies were simply dressed. There were, of course, the beauty patches, much powder, and more paint. Every gentlewoman had her own book of prescriptions from which her chemist compounded face powders, lip salves, rouge, cold creams, pomades, and hair bleaches, hair stains and hair powders of the time.

We must now examine the "conmode". This was a wire frame, thin at each end, and thick in the middle, so that it was half moon shape. Over this the ladies arranged their hair in many curls, piled high on the forehead. Above this was a "fontage", an affair composed of alternating rows of lace and ribbon stitched one above the other; or a thin stuff wired until it perched from twelve to eighteen inches above the forehead. (The fontage, or tower, was first worn by Mlle. Fontage at the court of Louis the Sixteenth of France). The side and back hair was made into long curls and allowed to flow unwound down the back and over the shoulders; beside the curls and waves covering the "conmode", there were many tiny curls lying in a flat row on the forehead. These were

called "creve-coeurs". Later on in this reign, the ladies copy the men and wear the hair in bob wigs.

Wig wearing continues through the reign of Queen Anne and until that of George the Fourth, 1820-1830, but with some changes. They were now worn long and flowing, much curled, parted evenly down the center, falling to each side of the face, and powdered with brown or white powder.

It was not unusual to find a gentleman sitting in dressing gown and slippers, while the wigs are removed from their roulettes, (a large round box used for the purpose) and displayed for his choice or approval. The "peruquier" or hairdresser removes the warm clay pipes, or tubes, over which the hair has been wrapped for curling, and places the wig carefully, but securely on the gentleman's head, with a pat here and there to the pipes to adjust them properly. Now the gentleman puts his face in a round glass bowl while the peruquier tosses white powder freely over the wig. If a long queue falls down the back of the wig, (called the Ramillie's wig), a bow is tied to the end and the worst is over. At times the wig is a short black periwig in bobs — gathered in bunches on the shoulders and tied in a little bob at the back of the neck.

George the First is on the throne, the periwig is singing its swan song, and the beautiful snow white wig looped and curled, is the fashion. There are wigs in three divisions of loops in the back. Wigs in long queues; wigs in back and side bobs. In fact, a perfect garden of wigs, and everywhere clean shaven faces, just beginning to assume the pink hue of health after so many years of concealing beards, the shaving of which at first gave a rather pallid look to the face. With the universal wearing of white wigs, one sees a marvelous softening of the facial

expression, a general appearance of youth, and an unusual brightness of the eyes due to the softly curled pure white wig. One observes the same softening of the face in all white-haired people, if the hair is kept in the perfect condition that all white hair demands.

In George the Second's reign, there flourished in London a wig lottery, tickets selling at a six pence. Grizzle Majors, an ordinary wig, sold at twenty-five shillings; Great Tyes at a guinea; brown bag wigs at fifteen shillings; and if one were lucky and won a lottery, it was indeed money saved. And wigs passed from father to son, and the inheritance was welcomed. Sometimes they reached the second hand shop, and after a thorough overhauling, were again placed in the market. There were Count Saxe wigs, pigeon wing wigs, cut bobs, wigs called the "Negligent", drop wigs, and bag wigs. The pen does not suffice, and word portraiture fails, though one may do one's best.

The ladies painted, patched, powdered and perfumed — and let it be added, the same applied to the gentlemen. A list of cosmetic adjuncts will not be out of place, and there was a wide field to choose from. Chief of all were musk, bergamot, Eau de Chipre, Eau de Luce or Lux, Sans Pariel, citron juice, a vermilion hued pigment for lips and cheeks; and a stick of black pigment for the eyes and lashes. Scant locks presented no difficulty to the ladies of this period, as one could purchase any quantity desired from the wig maker.

During the reign of George the Third, a period of sixty years, the wig still flourished, not quite so long or full, but conforming more to the natural shape of the head.

After 1795 there are but few examples of the powdered hair for the men, and there is a great change in fashions for women. The enormous wig arrives many

stories high, masses of meal and flax and stuffing, powder and pomatum, which required three hours in the dressing. Evil smelling masses whereby the ladies preference for the navy, gardening, or the sports, was evinced. One balances a ship of straw on the pinnacle of this towering headdress, another a coach, or a flower garden in full bloom. If the lady was fastidious she had her head done every three weeks; and rescenting became a necessity, not a preference. Monstrous piles of horse hair, hemp, wool, and powder made into a paste composed these odoriferous monuments to fashion; the cleaning of which is best not given in detail.

It would seem that for all our vaunted courage and individuality, we are but slaves to our neighbor's opinion. We are afraid not to be in the fashion, even if our good taste and judgment warns us that a certain style is ridiculous and unbecoming. With a sigh of resignation we submit our poor bodies to its rule, only to discover on the morrow that it is no longer "good form" or "smart". Indeed, there should be a law against such slavery; and some fine day one of our fair sex, with the necessary militant courage, is going to devote her brain and the necessary time to the forming of a universal costume for women, that will spell comfort, good taste and smartness combined.

England owes much to Beau Brummel for having invented modern masculine attire. Always spotlessly clean, never overdressed or in brilliant colors, but always in perfectly good taste, the daily bath was a religion with him. One whose daily companionship with a foppish king did not rob him of his individuality, he will live long in the memory of Englishmen for his cleanliness and wit.

American fashions in coiffure varied little from the English, the early colonist being dependent upon France

and England for new fashions and fripperies. However, the Puritan parsons played a large part in deciding what should or should not be worn. And how they did preach and rave and wrangle at women (and sometimes men) for their innocent vanities! Any evidence of the possession of hair by the women was particularly railed at, till one would think some error had been made in not having created them bald, and fitted with an enormous cap, hood or wimple. The maids and matrons promised to forego the luxury of visible hair; but human flesh is weak, and we fear the promises were broken almost before the words were cold.

Many Puritan magistrates of the time are pictured with long flowing, curled, but unpowdered wigs, and well-cared for moustaches and imperials or small beards. Pomades for the dressing of these were an article to be found with every gentleman's toilet accessories. Of the ladies it can only be said of them they did their best; and the best of some was fine and beautiful, indeed. Many of them were artfully and artistically familiar with the rouge and powder puff. The crisping pin and curling tongs were used, openly or secretly by many Puritan gentlewomen. However, had they heeded the gospel, as propounded in the pulpit by the parsons of the day, they would have had no hair to crisp or curl.

It is difficult for the women of today to understand why there was such wrangling over women's principal adornment — the hair. It would seem to us quite simply arranged, before the powdered wig for women became fashionable. There was no one fashion. For the most part the hair was parted in the center of the forehead and waved or curled lightly and brushed back; where it was coiled and pinned at the nape of the neck, or brushed up and pinned on the top of the head. Occasionally, a small

bunch of curls or ringlets were tied just above the ears and stood out a little from the face, with a few loose curls on the forehead. Another fashion was to part the hair across the head from ear to ear, and cut it rather short to form a fringe or "bang" (to use the American word). Curled false hair was worn by some in the form of a peruke, instead of the natural hair tied above the ears. These so-called "perukes" were formed over rolls, with a bunch of false curls spread over it and standing out at an angle on each side of the face. The balance of the hair was brushed back and done in a roll at the back of the head. Many women wore the fringe or "bang" uncurled.

Then followed a period of periwigs for the ladies, (as yet not alarming in dimensions) beautifully curled and powdered. The Virginian gentlewoman, like her Puritan sisters, at first wore her hair quite as simply dressed, tho pomades were much used. Later she appears powdering the natural hair. We can understand what a labor of shampooing followed; so nothing was more natural than the idea of wearing wigs, (the men had worn them for a long time), all powdered and curled and ready to slip on over their own closely confined hair. Then followed a period of pomading and powdering, strange to behold. Many colored powders were used, black, orange, and for a time even blue; white was, of course, the most popular. And when was a powdered wig complete without its accompaniment of beauty patch? With a touch of rouge to cheek, lips and chin, the brows and lashes accentuated by faint outlining with black eyebrow pencil, what more dainty, sweet and womanly? With that true womanliness no vanity of fashion, paint, powder or curled wig could destroy. But who is not familiar with the far famed "Colonial Dame"—what pictures they were

and are still — to stir our hearts to memories of old days, old ways, lavender scented, simple, and in many ways best!

Yet there came a day when this quaint simplicity was sadly changed. Their wigs underwent a startling transformation and appeared as towers, or one might say, pillows. Everything was used in their construction, and they were stuffed out and up over the lady's head a foot or more. They reached their zenith, slowly subsided, and disappeared, let us hope, forever.

Among the younger men of Colonial times, wig wearing was not usual; they as a rule wearing their own hair, long and curled. As they grew older they shaved their heads close and wore the full wig, waved and curled and heavily powdered with white powder.

So we bid adieu to freakish fashion in hair and headdress. The dear ladies and gentlemen who wore them — God bless them! for with all their whims and fancies, they yet found time to be true men and women, tender wives and loyal husbands, whether in wimple, hennin or caul, periwig, bob wig, white, powdered or natural hair. The paint patches and powder did not smother the goodness of their hearts or stain their honor. Had we lived in their day, being no stronger than the strongest, we would have painted, powdered and bewigged ourselves as they did. Deny it who can.

In conclusion, one is led to speculate on the far famed beauty of ancient women, and from what can be gleaned concerning their free use of cosmetics, we wonder how much was real and how much acquired. That there were really beautiful women we of course realize. Time and tradition has drawn a veil over this question, and we should perhaps hesitate before placing a desecrating hand of removal upon it. But to the seeker after truth naught but truth will suffice; and we know, no matter what the

natural charm of women may be, they are quite willing to enhance it, if this can be accomplished without injury. That is the difficulty — trying to determine just wherein the injury may lie.

Until the subject of cosmetics is perused and accepted along educational lines, just so long will this danger survive. Cosmetics always have been and always will be used — then why not intelligently?

CHAPTER II.

ANATOMY OF THE SCALP AND HAIR.

The Hair and the Nails are appendages of the skin, and in order to thoroughly understand their structure some knowledge of the anatomy of the latter organ is essential.

The Skin consists of two parts: an outer, superficial, epithelial layer, known as the *Epidermis* or *Cuticle*, or the false skin; and a second, deeper layer, known as the *Corneum* or *Cutis Vera* — sometimes called the true skin. Beneath the true skin is a layer of subcutaneous tissue of considerable thickness which forms a loose attachment between the skin and the under-lying structures. The skin varies in thickness on different parts of the body, being thicker on the back of the head, the neck, and the trunk, than on the front of the body; and thicker on the outer side of the limbs than on the inner side.

The Epidermis or false skin serves as a protective layer to the under-lying, sensitive true skin. It varies in thickness in different regions of the body, being very thin in some places as on the eyelids, and very thick on other parts of the body as the palms of the hands and soles of the feet. The fully developed epidermis consists of four layers: first, the *Stratum Corneum* or outside layer, which is composed of thin, flattened, horny scales; second, the *Stratum Lucidum*, which appears as a thin, poorly defined layer, the cells being horny-like in structure, and slightly transparent; third, the *Stratum Granulosum*, a thin layer of cells having a granular appearance and containing

granules of Eleidin; fourth, the *Malpighian Layer*, which is composed of two kinds of cells. The outer cells of this layer are many sided in form, and have delicate projecting spines resembling prickle-cells. The other cells, found next the true skin, are columnar in character. The *pigment granules* which give the color to the skin, while distributed widely throughout the epidermis, are found principally in the deep cells of the Malpighian layer; and to the presence of a large quantity of this pigment is due the dark color of the skin of the negro.

The True Skin consists of two layers: first, an outer, dense layer known as the *Papillary Layer*, which is covered with small papillae, or projections forming the principal organs of the sense of touch; second, an *Inner Reticular Layer*, which is looser in structure and made up of coarser bundles of tissue. There is no well defined line of demarcation between these two layers, the papillary layer blending with the reticular, while the latter blends gradually into the under-lying tissue.

The Scalp is that portion of the skin which covers the top, back, and sides of the head above and behind the ears. The skin of the scalp is usually thicker than the skin on any other part of the body, and contains a large number of hair follicles in which are implanted an abundant growth of hair. The area of the average adult scalp is one hundred and twenty square inches, and the average number of hairs to the square inch is estimated at one thousand; the number of hairs varying however with their color and location, as well as with the age and sex of the individual. Light blonde hair is the finest, and a shade of dark red hair the coarsest, of the hairs of the scalp, and scalp hair is finer in texture than the hair on the face. The scalp is composed of the skin, the sweat



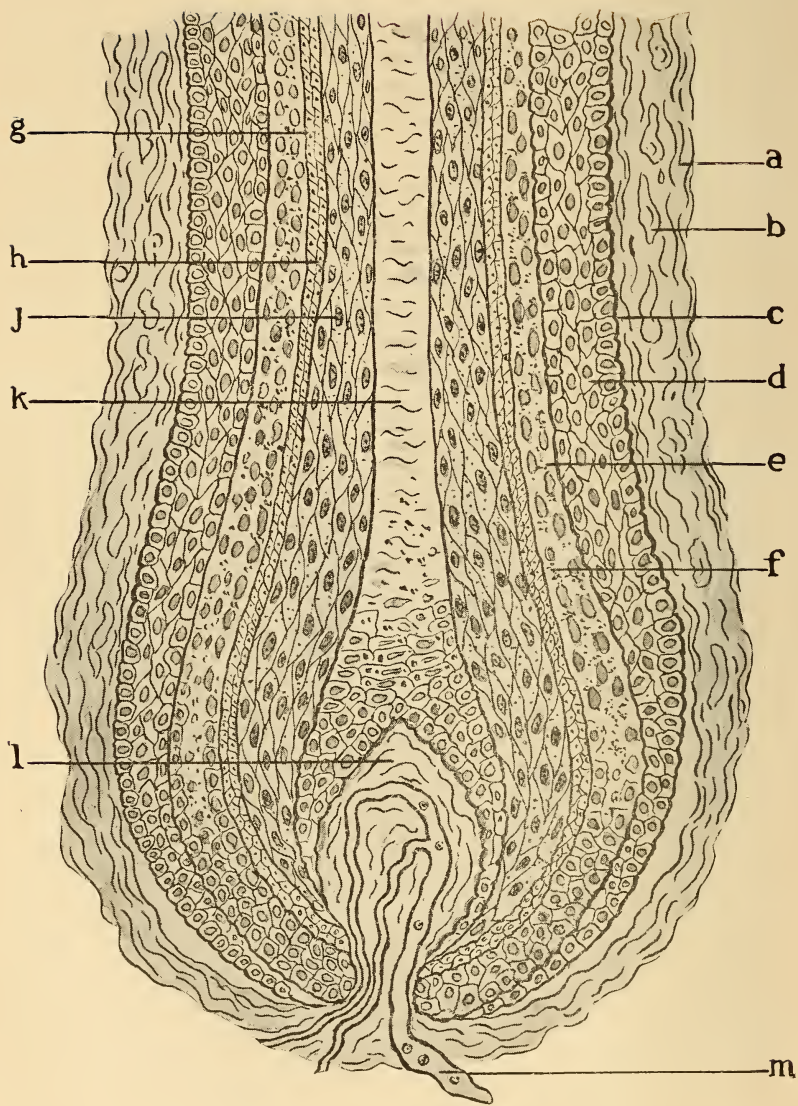


PLATE I.

LONGITUDINAL MEDIAN SECTION OF HAIR SHAFT, BULB, AND FOLLICLE.

HAIR FOLLICLE.

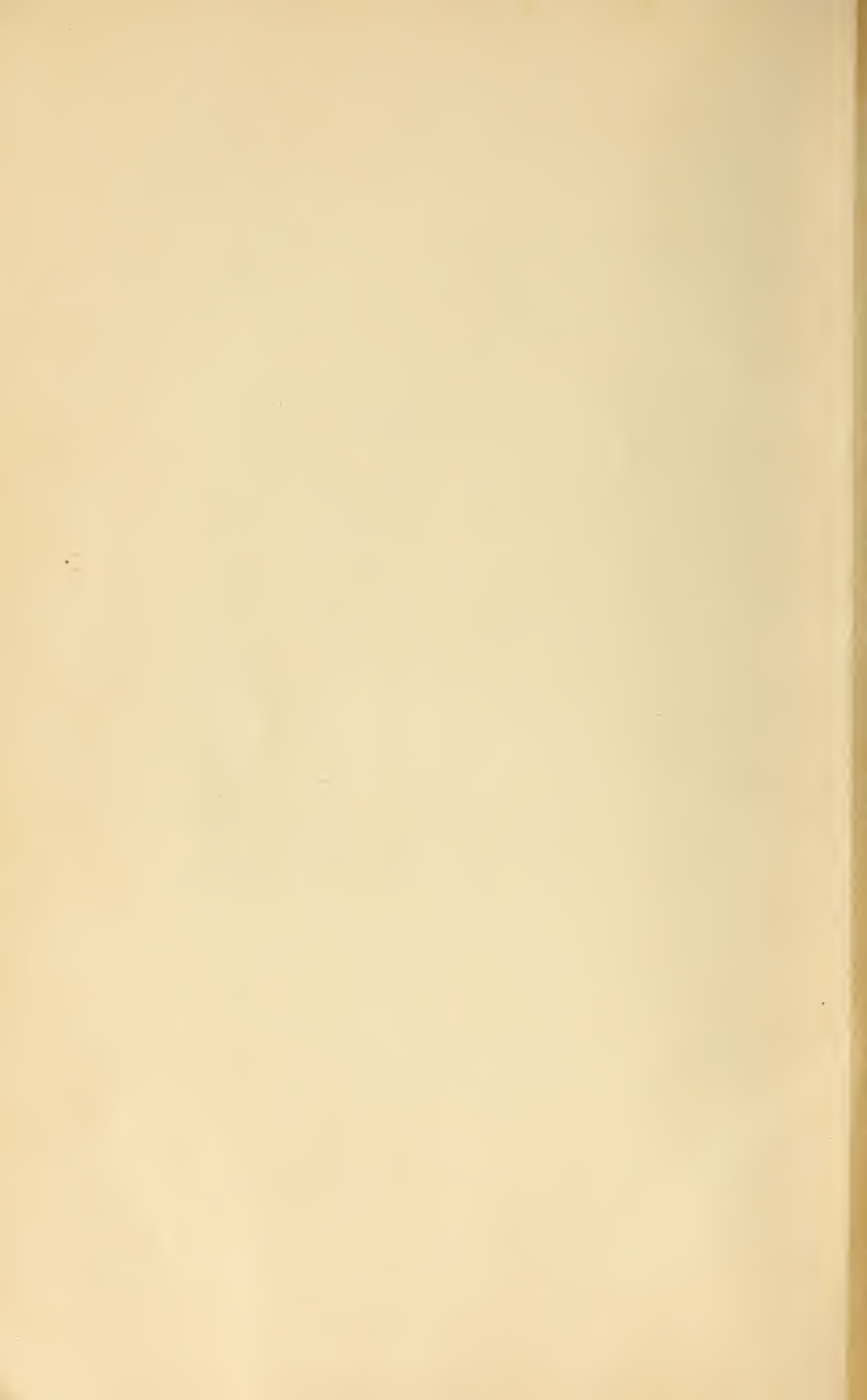
- a. Outer coat, showing longitudinal fibers.
- b. Middle coat, transverse fibers.
- c. Inner coat.
- d. Prickle cell layer.

ROOT-SHEATH.

- e. Outer layer of the root-sheath.
- f. Inner layer of root-sheath.
- g. Cuticle of root-sheath.

HAIR SHAFT.

- h. Cuticle of the hair; composed of flat cells over-lapping like shingles, with free ends directed upward.
- j. Cortex; composed of spindle-shaped cells firmly adherent to each other, and forming the body of the hair. The cortex contains the cells of pigment to which the color of the hair is due.
- k. Medullary, or central canal filled with non-pigmented cells, keratohyalin granules and air bubbles.
- l. Papilla; a cone-like projection upward of connective tissue fibers; contains the minute arteries and veins by means of which the hair is nourished.
- m. Blood vessels of the papilla.



glands, the hair follicles (in which we find the hair shafts), the sebaceous glands, which secrete the necessary oil for the hair, and the erector pili muscles, attached to the hair follicles and serving to elevate the hair. The hair follicles vary from one-twelfth to one-quarter of an inch in depth, and penetrate the scalp in a slanting direction.

A Hair Follicle is simply a pear-shaped, tubular depression in the epidermis or outer layer of the skin, the larger end of which is directed downward, into or through the substance of the cutis or true skin. The supporting wall of the follicle is derived from the dermis or true skin, and is divided into an inner and an outer layer.

The Inner Layer is composed of fibrous bands which run in a circular direction around the follicle, while from below it gives off a small cone-shaped mass which projects upward into the lower end of the follicle and forms the hair papilla. *The Outer Layer* is composed of fibers which run parallel with the long axis of the follicle; and the lining of the walls of the latter consists of an external sheath and an internal sheath. *The External Sheath* is composed of modified cells of the epidermis or false skin, and is arranged in three layers — an external layer, a middle layer, and an internal layer, which end near the papilla at the bottom of the follicle. *The Internal Sheath* is also composed of three layers — an outer layer or layer of Henle; a middle layer or layer of Huxley; and an inner layer or cuticle of the follicle. It is formed from the cells on the sides of the neck of the papilla, and grows upward, ending at the neck of the follicle. Between the epithelial lining and the walls of the follicle we find the *Vitreous* or *Glassy Membrane* — a continuation of the membrane which separates the dermis from the epidermis.

The Hair Papilla is a small, projecting, cone-

shaped mass of connective tissue given off by the inner layer of true skin, and extending up into the bottom of the hair follicle from below. Each hair takes origin and draws its nourishment from the papilla; and in its growth passes upward through the hollow, tube-like hair follicle, until it emerges at the surface of the skin. Should the vitality of the papilla be interfered with, the hair it nourishes ceases to grow, or dies and is cast off.

Structure of the Hair.

The Hair is a shaft-like, horny structure of skin origin; its composition being somewhat similar to the substance composing the nails, but much more soft and elastic. *A Complete Hair* is made up of four parts: *The Bulb*, or expanded lower end of the hair, is found at the bottom of the follicle, and has in its end a cup-shaped depression that fits over the papilla as an acorn hull fits the acorn; *The Hair Root* includes the bulb and that portion of the hair contained within the hair follicle; *The Hair Shaft* is that part of the hair which begins at the level of the skin and extends up to where the shaft begins to taper at the end; *The Point* is the extreme distal end of the hair.

The Hair Shaft in cross section may be circular, oval or flattened; and whether the hair is round or flattened determines whether the hair is straight or curly — the flatter the hair shaft, the more it will curl. In the center of the hair shaft is a central or medullary canal, which is filled with a substance called the *Medulla*. This latter is made up of groups of many sided cells, separated one from the other by small air spaces, and sometimes containing grains of pigment. The medullary canal begins at the top of the hair papilla, and extends to within a short distance from the point of the hair. Surrounding



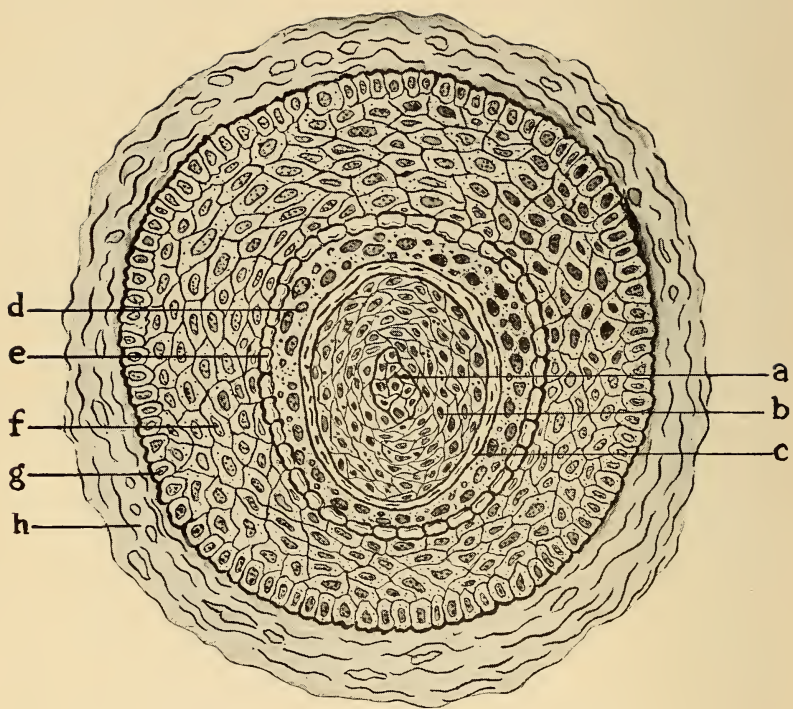
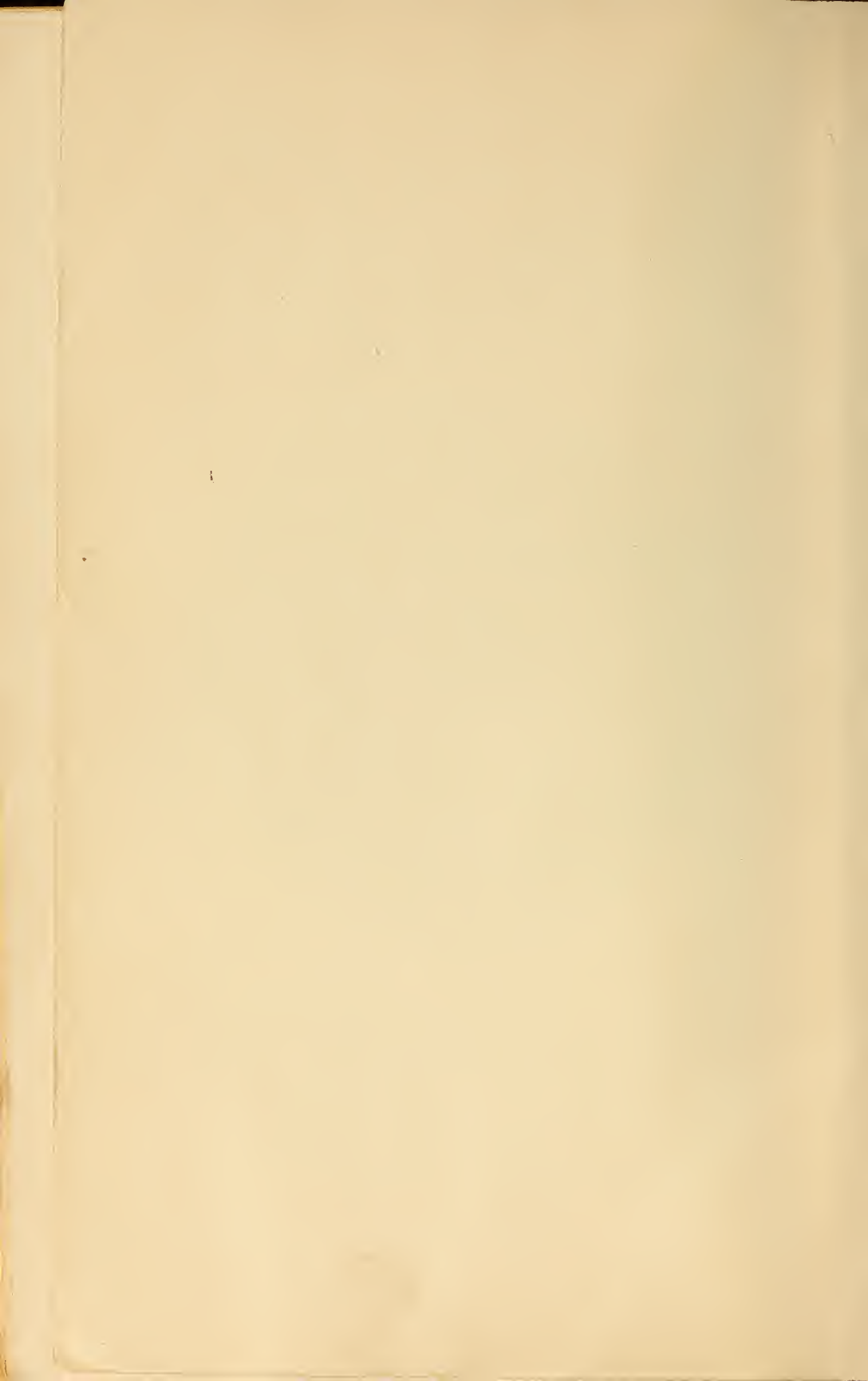


PLATE II.

TRANSVERSE SECTION OF HAIR AT MIDDLE OF FOLLICLE HAIR SHAFT.

HAIR SHAFT.

- a. Medullary, or central canal, filled with many-sided cells.
- b. Cortex, or body of the hair, showing the fine pigment granules in and between the spindle-shaped cells.
- c. Cuticles of hair shaft and root-sheath.
- d. Inner layer of root-sheath.
- e. Outer layer of root-sheath.
- f. Prickle-cell layer of the follicle.
- g. Inner layer of follicle.
- h. Outer coat of follicle.



the central canal is the *Cortex* or horny tube which forms the body of the hair. It is composed of bundles of long, spindle-shaped cells, and contains the major portion of the pigment or coloring matter which gives the hair its basic color. The hair shaft has no nerve supply, but there are very fine nerve branches which penetrate the hair follicles. As yet no nerves to the hair papillae have been traced in the human subject.

The Cuticle or outside covering of the hair is composed of a layer of many sided plates, free from coloring matter and arranged somewhat like the scales of a fish; having their free ends directed outward and upward toward the point of the hair, and interlocking with the downward pointing cells of the lining of the hair follicle.

The Sebaceous Glands secrete the *Sebum*, a substance resembling soft butter, which oils the hair. These glands are composed of groups of lobules joined together and are similar in arrangement to a small bunch of grapes; the sebum is emptied through a common duct into the upper third of the follicle directly upon the hair shaft, thus oiling the hair and rendering it soft and pliable.

The Sweat Glands number about forty to the square inch, and therefore have an important bearing on diseases of the scalp.

The Blood Supply of the hair is derived from the capillary network of blood vessels which surround and feed the walls of the hair follicle; and from small arterial loops which project from below up into the hair papillae, which they nourish.

Muscles of the Hair.

Each hair follicle possesses a small muscle, one end

of which is inserted into the inner layer of connective tissue which forms the wall of the follicle, the other end being attached at an angle to the true skin above. This muscle is called the *Erector Pili Muscle* and when it contracts the hair follicle is raised from its normal slanting position in the scalp to an upright position, thus elevating the hair point and causing the hair to "stand on end."

Types of Hair.

Human hair is divided into three classes. First, *long, soft* hair; the anatomy of which type has already been described. Long, soft hair is found on the head, and after the age of puberty, on the face, in the armpits and over the pubic regions. When the body hair is well developed, the chest of the male is frequently covered by a growth of true long hair.

Second, *short, stiff* hair. This variety is found in the eyelashes and eyebrows, where it is called *Cilia*; in the nose, where it is called *Vibrissae*; and in the external ears, where it is called *Tragi*. Short, stiff hair differs from the long, soft hair in that the hair follicles are implanted in the skin in a perpendicular direction, and naturally do not possess erector pili muscles.

Third, *Lanugo*, or *downy* hair is the name given to the short, delicate hair which is found distributed over the entire surface of the body. It is very much finer in texture than long or short hair, is usually colorless, and does not possess a medullary canal.



CHAPTER III.

PHYSIOLOGY OF THE HAIR.

Rudimentary Hair begins to develop on the face of the unborn child as early as the third month, and gradually spreads over the entire body and extremities; the process being completed about the seventh month, when it is slowly shed in the order of its first appearance. It differs from the hair after birth in that it possesses no medulla. After birth a new growth appears which represents the permanent type of hair, as it contains a central canal, and gradually increases in thickness, length and color.

The Age of Puberty is marked by a growth of hair over the pubic region, in the armpits, and on males, over the face. In women the growth of hair in the armpits is usually less developed than in men, and in many instances is entirely lacking. From the thirty-fifth to the fortieth years, a growth of short, stiff hair frequently appears in the nose and external ears, and the hair of the eyebrows becomes thicker and coarser. This growth is pronounced in men who possess an abundant growth of hair on the body.

New Hair.

In the Human Race there is a Constant Shedding and New Growth of Hair. This process is accomplished in the following manner: The hair loosens from its papilla; the end of the root passes up to the middle third of the follicle, where it remains attached for a

varying length of time; the papilla grows smaller; and finally the lower end of the follicle collapses. Hair in this condition is known as *Bed Hair*, and all healthy hair goes through this stage before it falls. When the end of the root of a bed hair passes beyond the middle third of the follicle, it receives no nourishment, and as a result dies and falls from the head. About two months after the hair bulb has passed up to the middle follicular region, a new hair begins to grow from the papilla, and in one or two months it is completely formed, the growth of new hair usually beginning before the bed hair has fallen from its follicle.

Length of Hair Life—Rate of Growth.

There is a marked variation in the length of life of hair, not only between the hairs of different individuals, but also between the hairs found on the same scalp. Factors which determine the length of life of hair are age and sex, whether the hair is coarse or fine, and the condition of body health. The length of life of an individual hair on the human head varies from two to six years. The lifetime of eyelashes is from four to six months. The rate of hair growth varies from three-eighths to three-quarters of an inch a month until it has reached the length of twelve to fourteen inches, when its rate of growth is reduced one-half. Past this point the growth gradually ceases. Hair grows faster in warm weather than in cold, and faster by day than by night. The hair of women of the white race attains an average length of from twenty to twenty-four inches, although it may reach forty to sixty inches in some cases. The hair of men will not attain an average greater length than eight or twelve inches, even if left uncut.

Chemical Composition of the Hair.

Chemically, hair is composed principally of —

Carbon	54.52
Hydrogen	6.41
Nitrogen	17.82
Sulphur	5.20
Oxygen	16.05
Mineral matter, about 2%.	

The mineral matter consists of Sodium Sulphate, Calcium Sulphate, Iron Oxide, Silica, with Carbonates, Phosphates, and Chlorides of Calcium, Magnesium and Sodium. Hair gradually grows darker and coarser with advancing age, this evolution being more rapid in males than in females. Hair of darker shades contains a larger proportion of carbon and iron than the lighter shades, while sulphur and oxygen are found in relatively larger quantities in light hair than in dark. White hair contains a larger amount of mineral matter than colored hair.

The Pigment or coloring matter of the hair is produced by obscure chemical action indirectly from the coloring matter of the blood; and is found chiefly in the Cortex, where it is conveyed by the pigment carrying cells located principally upon the sides of the papilla.

The Color of the Hair is Dependent Upon Four Factors: First, the diffused pigment, found in the medullary canal and cortex, which imparts a light brown to a dark red color according to the quantity of pigment present; Second, the granular pigment — found in or between the fibers of the cortex and sometimes in the medulla — which varies in color from a brown to an intense black. The more granular pigment the cortex contains, the darker the color of the hair, but some granular pigment is found in every shade of hair; Third, the pres-

ence of air globules, which are found in the outer layer of the cortex, and which by their power of refracting light modify the color of the hair; Fourth, the greater power of reflecting light possessed by an object with a rough surface over one that is smooth; the former giving it a lighter shade.

Various Shades of Hair.

The color of the hair may be white, yellow, red, brown, and black with a multitude of intervening shades, dependent upon the amount, color and combinations of pigment. *The Color of the Hair almost always corresponds in Shade with the Color of the Complexion and the Eyes;* so that hair not properly stained to preserve this harmony, is easily detected by close observation, and instead of enhancing beauty, serves to disfigure.

The Diameter of Scalp Hair varies from $1/250$ to $1/500$ of an inch. The average diameter of the hair of women is greater than that of men; while the hair of the young is finer than that of adults. Very light blonde hair is the finest in texture, and a type of red hair is usually the coarsest; but the diameter of hairs may vary on the same head, and individual hairs differ in diameter throughout their extent.

Hygroscopic Propenties.

Hair readily absorbs moisture — the hair shaft becoming thicker and rounder. This fact explains why hair that has been artificially waved loses its curl in damp weather.

Elasticity and Strength.

The hair is very elastic and so strong that a well developed, large hair will sustain a weight of several

ounces. On account of its chemical composition it vies with the teeth in resisting after death the ravaging of time.

Uses of Hair.

First, the hair, being a nonconductor of heat, serves to maintain an even temperature of the head and neck. Second, it serves as a means of protection from physical violence. Third, beautiful, luxuriant hair furnishes the one incomparable background to soften rough facial features. Its shade, harmonizing with the color of the skin and eyes, brings out their greatest beauty; it modifies the irregular contour of the head, and produces symmetry of form. Beautiful hair is woman's crowning glory, and man's principal adornment.

CHAPTER IV.

HYGIENE OF THE HAIR.

To acquire or retain beautiful hair, its scientific culture is of the greatest importance. *Fully eighty-five per cent of the cases of Alopecia Praematura, or loss of hair not due to specific disease and occurring before the age of forty-five years, is due to neglect of the laws of hygiene of the hair and scalp before the age of puberty.* In many instances there is an inherited tendency to baldness or to scant, stiff, discolored hair, which requires especial care and attention. Massage and absolute cleanliness, together with *scientific preparations intelligently applied*, are necessary in order to prevent or cure diseases of the scalp and hair, and to insure the maximum amount of nourishment; while routine measures to promote their health and growth from an early age should be adopted and persistently followed. We wish to emphasize that absolute cleanliness is essential, not only of the hair and scalp, but also of the brushes and combs used in caring for them. The wearing of hats, or any form of head-dress other than one's own may result in great harm. Insufficient or over-exposure of the hair to fresh air and light, tight fitting, unventilated forms of head-dresses such as fur hats or caps, which heat the scalp and induce excessive perspiration, in fact *any treatment which common sense would condemn as harmful, must be avoided.*

False Hair.

The practice of constantly wearing false hair as an aid to personal adornment is ill-advised when considered

from a hygienic standpoint; it heats the head and induces perspiration of the scalp, with its attendant evils which directly inhibit hair health and growth; the degree of injury being dependent upon the length of time, and the amount of hair worn. It is far better to stimulate the growth of natural hair by the adoption of proper means, even though much time and patience are required, than to achieve a temporary comeliness by the wearing of false hair which may have been taken from the dead, or from some person afflicted with disease. Study the physiology and hygiene of the scalp and learn how to acquire and maintain beautiful hair; thus avoiding those dangers entailed by the constant wearing of false tresses — a habit so unnatural, unsanitary, and in many instances so filthy.

Sun Bleached Hair.

Hair health and growth are promoted by a favorable amount of exposure to the air and light; while prolonged exposure to the hot rays of the sun will bleach or fade the color of the hair and destroy its lustre. Nature endeavors to prevent this latter action of the sun's rays by increasing in the cortex of the hair shaft the deposit of pigment, which serves as a protective agent to the head in a manner similar to that of the pigment of the skin which protects the body. This fact explains why the inhabitants of hot countries have as a rule hair of darker shade than people who live in a colder climate.

When nature fails in her effort to conserve the vitality of the hair by an increased pigmentary deposit, there results a condition known as *sun-bleached* hair, the result of exposure through the hot summer months, which is characterized by a dull, lifeless condition, due to the excessive action of the sun's rays especially upon hair that has been wet and improperly dried. As a result the hair

becomes dry with split ends, and its beauty and vitality is impaired. To correct this condition nutrition in the form of a nourishing oil should be massaged into the scalp until the lost vigor is restored. Pure white vaseline, pure olive oil or sweet almond oil may be used. If a thin oil is used it may be applied to the scalp by means of a medicine dropper. The most convenient way of applying the vaseline is to place a teaspoonful in a small dish, dip the finger tips into this and apply by parting the hair in the middle and massaging with the finger tips along the entire line of exposed scalp; then make small partings as near to the first line as possible and continue the operation until the vaseline has been applied to the entire scalp. By using the oil or vaseline in this way the proper nourishment can be supplied to the scalp without rendering the hair greasy or sticky. This procedure should be repeated once weekly, and should be followed by a shampoo on the succeeding day.

The Hair Brush.

The hair brush should have stiff, firm bristles, set rather widely apart, and arranged in rows or in widely separated tufts. Theoretically, the bristles in the middle of the brush should be longer than those of the edge, in order that perfect adjustment between the ends of the bristles and the scalp may be secured. We do not indorse the use of brushes with wire bristles as they irritate the scalp, and offer no particular advantage over a brush with natural bristles. The brush should be used at least twice daily with sufficient vigor to brush out all foreign matter lodged in the hair and to produce a feeling of stimulation in the scalp.

Care of the Brush.

The brush should be disinfected weekly by washing with soap and hot water, by soaking in a solution of Formalin and water in the proportion of a teaspoonful to a pint, or by means of borax and water. One of the most effectual ways of cleansing the brush, aside from boiling, and one that will not make the bristles too soft is by immersing the bristles in warm water to which a little ammonia has been added; another excellent method and one which will remove all grease and leave the bristles firm is by rubbing thoroughly with dry bran, afterward combing and shaking it out.

Stiffening the Bristles.

The stiffness may be restored to bristles by washing them in hot water to which a small amount of ammonia has been added, then dipping them in salt water and allowing to dry with the bristles up in the open air. A solution of baking soda and cold water may be substituted for the above if desired.

Proper Use of the Brush.

The daily brushing and combing of the hair tends, more than by any other means, to impart that beautiful gloss which is so desired. It stimulates the supply of blood, thereby increasing the amount of nourishment to the hair papilla; the secretions of the sebaceous glands, or natural hair oil, are stimulated and distributed more thoroughly through the hair; and dust and dandruff are removed from the hair and scalp. The hairpins should be removed and the hair ventilated or aired by gentle shaking, assisted by a combing action of the fingers, before the brushing.

To brush properly the hair remember that it is implanted at an angle in the scalp, and brush in the direction of the natural slant, from side to side, beginning at the natural center parting and brushing outward and downward toward the end of the hair; in the same manner from the rear of the head brush downward and back. If the hair is long, separate it into small strands and brush it throughout its entire length; after the hair is gone over in this manner, throw it forward over the face and gently brush it at the sides of the face and nape of the neck. Care should be exercised to brush equally the hair over all portions of the head, and with sufficient vigor to stimulate the scalp.

It is interesting to note that the use of hair brushes is of great antiquity. The original hair brushes were made of small bundles of twigs, stiff fibers, or grasses, bound together at the end; and such brushes are still to be found among certain primitive races.

The Comb.

The comb is an important adjunct of the brush in the care of the hair, and has been used in a crude form from time immemorial. A primitive Lake Dweller's comb found in the Marsh excavations north of the Alps was made from small pointed sticks of box-tree wood, so braided with cord that they held the right distance apart, and were secured in place by diagonally bound strips of wood.

The comb should have large, widely separated, smooth teeth with round ends, in order to prevent undue pulling of the hair or irritation of the scalp. The material of which a comb is made is not a matter of importance provided the form is correct. The objection to the ordinary metal comb is its improper shape; but it has this advan-

tage, that it can be sterilized by heat without injury. Combs with ill-fitting or ornate silver backs are objectionable, since they are prone to entangle or pull the hair, as well as being difficult to sterilize. Celluloid hair combs and pins are dangerous on account of their inflammable nature. Combs should be kept clean by frequent washing in any of the solutions used in cleansing the brush.

It is bad practice to use a comb of any description on the hair of infants, as it may irritate the scalp or cause an eczema; and crusts or scales should never be *combed* from the scalp.

The Proper Use of the Comb.

With a comb of correct form divide the hair in the median line and part off a small strand which should be held firmly in the hand, or wrapped around the fingers and held between the scalp and the comb to avoid undue traction on the roots of the hair; draw the comb slowly, first through the ends of the hair, then gradually work up toward the roots. This method of combing will untangle any existing snarl instead of bringing it together in a knot. Proceed in this manner, combing small strands in their regular order until the operation is complete. For obvious reasons the hair should be perfectly dry before it is combed. Finally the hair may be arranged in a loose braid or coil, or if one sleeps so quietly that snarls will not result, tied loosely close to the scalp, with the unbound portion spread over the pillow.

The practice of combing the hair by stroking it toward the roots in the process of dressing it, in order that it may appear more fluffy and abundant, is extremely bad practice, as such treatment not only injures the delicate external plates of cuticle which project toward the end of

the hair, but it also results in tangles and knots, with consequent fracture of the hair shaft.

Hair and scalp that are too dry frequently require the application of a small quantity of olive oil, sweet almond oil, or vaseline, which should be applied to the scalp before the brushing by means of a medicine dropper or by making frequent partings and rubbing into the scalp with the tips of the fingers.

Hair Pins.

The material which enters into the composition of hair pins is not important, but the pin itself should be large and smooth with rounded points. The use of rough, sharp metal hair pins not only injures the hair and scalp, but they frequently serve as carriers of contagion. In hair dressing establishments, never permit the use of a hair pin other than your own, unless it is perfectly new.

Hot Curling Irons.

Frequent dressing of the hair with the aid of hot curling irons is very injurious. As we have seen, the sebaceous glands supply a natural hair oil, which is poured out into the hair follicle, and serves to keep the scalp soft and pliable, and the hair smooth and flexible. This oil not only envelopes the hair shaft, but it also penetrates into the interior of the hair. The frequent use of a hot curling iron literally burns up this natural oil, leaving the hair dry and brittle, with split ends and with a greatly lessened vitality. To prevent or correct this condition abolish the curling iron; or if needs must, wrap the iron with white tissue paper which will char if the iron is too hot. Clip off the ends of any split hairs below the cleft, and *Rub Into the Scalp* a good grade of olive oil, castor oil, or white

vaseline, after which the hair should be thoroughly brushed.

Hair Cutting.

Hair cutting in adult life is more a matter of personal taste than necessity. The hair of men may be worn longer or shorter as fancy dictates, since the health of the hair is not affected by cutting if the operation is performed with sharp, smooth scissors. In women the hair is always worn long unless cutting is required as a result of disease.

Clipping the Hair.

This treatment is necessary to remove unhealthy split ends of dry or cracked hair, and is beneficial in the treatment of falling hair. The hair should be thoroughly shampooed and parted in the middle; then separate a small strand of hair and holding it by the end away from the head twist it into a tight roll, being careful not to cause undue strain on the roots of the hair. Twisting the hair in this manner will cause the split ends to project from the roll, when they may be readily clipped off by the shears. Complete the clipping by cutting off the extreme end of the strand, after which the hair may be coiled and pinned against the side of the head. Proceed in like manner until all the hair has been treated.

Singeing the Hair.

The object of singeing the hair is not to shorten it, as is effected by the operation of cutting, but rather, as in clipping, to remove the split ends. The good results obtained by singeing, as frequently described, are nil; if there is any difference of merit between the two methods of removing split ends it is in favor of hair clipping, on the theory that the application of intense heat dries out the natural oil from the hair shaft, thus creating a condition

which favors the tendency to split and break. The sole advantage of such practice lies in the rapidity with which the operation may be performed. The practice of singeing the hair is founded upon a belief that the hair contains in its central canal a vital fluid which escapes from the free open end of the hair shaft when the hair is cut; but since such vital fluid does not exist, the theory of singeing is utterly valueless, is based upon utter ignorance of hair structure and growth, and is merely the resurrection of a method practiced during the dark ages.

To Singe the Hair it should be divided into small twisted strands in the manner described for clipping. The singeing may be done by a special lighted wax taper or by any taper that will answer the purpose; this taper should be moved swiftly and always held in an upright position in order that the size of the blaze may be regulated and the singeing controlled, and to avoid singeing too close to the roots of the hair. After the process is completed, brush and shampoo thoroughly to remove the odor of burnt hair and the burnt ends of the hair. A suitable oil may then be applied if indicated, and the hair dressed as desired.

Shaving.

In early times the beard was considered an especial attribute of masculine adornment and virility, and a great deal of care was lavished upon its cultivation. While a heavy beard undoubtedly serves as a means of protection to the throat, it is not now needed; and the luxuriant growth of hair on the face affected by our forefathers is today rarely seen. Smooth shaven faces are the rule, and the element of protection formerly desired has surrendered to the greater demands of hygiene.

In shaving we need to consider only the arrangement of the hair whorls upon the face and neck, rather than the

actual cutting of the hair itself. The beard should be shaved with due consideration of the direction in which the hair lies, or "shaved with the grain," in order that the cut ends may not become engaged in the skin structure as the result of growth. Too close shaving causes irritation and roughening of the skin. The razor used in shaving should be sharp and cut smoothly, should be drawn with a sliding stroke to avoid pulling, and to utilize fully the cutting power of the blade; pimples containing pus should be cleansed with an antiseptic solution; and any bleeding points should be checked by pressure or heat, rather than by the application of a styptic pencil. After shaving and removing all traces of soap with warm water, cold water should be applied and some antiseptic solution, as the spirit of bay rum, may then be used. Finally the face may be powdered to suit; or if needed to allay irritation, any ointment or lotion required may be applied. The soap used in shaving should be non-irritating and produce a creamy lather; which should be rubbed in so thoroughly as to soften the beard, when the operation of shaving is rendered easy. Cleanliness of all utensils used in shaving should be insisted upon.

The Hair Line.

The average woman does not realize the subtle influence which the possession of a beautiful hair line exerts upon the features. The growth of hair where the skin of the face and the scalp meet should be preserved by massage along the hair line from the ears to top of forehead, using the tips of the fingers, and by gentle brushing. The use of face creams which clog the follicles, or face bleaches which are especially harmful when rubbed into the hair line, should be avoided.

Mode of Dressing the Hair.

At times occasion demands that an elaborate coiffure be worn. This does not necessarily entail injury to the hair if proper care be exercised. Ordinarily, any becoming fashion of wearing the hair is permissible, providing that the mode chosen does not entail injurious twisting or binding of the hair. The simplest way of wearing the hair, such as braiding it or brushing it smoothly back from the forehead, is best; and we do not believe that light switches or coils, if properly worn for a short time upon special occasions, are objectionable. Curling the hair by the use of hot irons, curl papers, or kids, is not recommended; the best results are obtained by curling it over soft silk, when the hair will be left soft, glossy and flexible. If curling tongs are used they should be wrapped with white tissue paper. This serves the double purpose of showing the char which a too hot iron would produce, as well as protecting the hair from the surface of the naked metal and preventing any stain on the hair that might arise from the use of colored paper. These points are of especial value in the waving of white hair.

Hair Dressing Parlors and Barber Shops.

To secure conditions approximating surgical cleanliness is impossible in the ordinary hair-dressing establishment or barber shop. Patrons can demand, however, clean hands, towels and hygienic surroundings. When possible one should always furnish their own cups and brushes, or brush, comb, and pins, as the case may be. If patrons realized to what an extent contagious local and constitutional diseases are spread in unclean and carelessly managed parlors and shops, they would not be content until the strictest of sanitary measures were enforced; or failing that, the functions of these establishments would be

performed in their own home. Patronize only the up-to-date barber or hair dresser who endeavors to conform to the laws of hygiene as a matter of good business, and through proper pride in his establishment. Clean towels should be used but once and then boiled; fresh covers for head-rests should be provided for each individual; frequent sterilization of all instruments and utensils used should be practiced; and the cleanliness of the operator should be above reproach. To be successful, the advanced hair dresser or barber of the future will not only have a thorough knowledge of the laws of hygiene, but he will put that knowledge into execution, and capitalize heavily in his business as a result.

CHAPTER V.

THE SHAMPOO.

The shampoo is a process of washing thoroughly the hair and scalp with the fingers or a soft brush, using either soap or a saponaceous preparation for the more perfect cleansing.

Beautiful Hair is Not the Only Result of Proper Care, but it is the First; and a Shampoo Properly Given is One of the Most Important Hygienic Factors in Preserving or Acquiring It.

The results to be obtained from the shampoo are manifold; all superfluous oil or foreign matter which renders the hair sticky and lustreless should be washed away; the scalp should be thoroughly cleansed in order that the highest degree of vitality not only of the skin, but of the underlying structures of the scalp, may be maintained; all foreign matter which may clog the mouths of the sweat glands and hair follicles should be removed, else the vitality of the hair will be impaired as a result of the damming up of the mouths of the hair follicles, with a resultant condition which affects directly the growth of the hair itself. The sweat glands are excretory organs and their function must not be interfered with else diseases ranging in severity from a slight inflammation to a violent eczema may result. The effects of a thorough shampoo are more than local, as it not only benefits the hair and scalp, but also produces a general feeling of freshness and well being.

Shampoo Mixtures.

The best shampoo mixture is made with pure soap and soft water as a base. Hard water should never be used in a shampoo, as the lime and sometimes iron contained in it will be deposited on the hair shaft, leaving the latter harsh; and on white hair may result in discolored streaks. The soap should be shaved into fine particles and sufficient boiling water poured over it to make a solution the consistency of a thin syrup; or a cake of soap be placed in a vessel, a pint of boiling water added and the mixture agitated until a thick lather is formed. The following will be found a good shampoo mixture: Shave fine one cake of Castile soap, pour over it three quarts of boiling water and allow to stand, applying gentle heat until the soap is entirely dissolved; then cool and bottle for future use. The following shampoo liquid is frequently used by hair dressers and barbers: One-half pound of Cochin Castile, one tablespoonful of Borax, one gallon of water. Boil until soap is dissolved, then cool and bottle for future use. The white of an egg beaten up and added to the shampoo solution will assist in giving the hair a soft gloss. If the hair does not contain much oil or dust, a mixture of two or three eggs beaten up in soft water will be sufficient to cleanse it, after which it should be thoroughly rinsed.

Application of Shampoo Mixtures.

To apply the shampoo, moisten the hair and scalp with warm water — never use cold — and massage the solution into the scalp with the ends of the fingers until the scalp is thoroughly cleansed; if the hair is long, saturate it with the shampoo mixture and proceed to wash it downward from the roots to the end by rubbing it between the palms. The long, thin ends of the hair may be doubled, always exercising care to prevent tangling and

snarling. Complete the process by rinsing in warm soft water applied by means of a bath spray, or by holding the head over a basin and pouring the warm water over the scalp and hair, assisting the rinsing process by a gentle rubbing with the hands. Never rub the hair or scalp with a cake of soap; use a shampoo mixture and make a good lather, rubbing the fingers back and forth, and avoiding circular motions as this will cause tangles, especially if the hair is long. Do not finish the rinsing process with water sufficiently cold to chill as is sometimes advocated. As a result of such practice a cold in the head may result, especially among those who have a catarrhal tendency. Very cold water is advocated on the ground that it brings the blood to the scalp; but since this object is attained by the massage, the application serves no good purpose and may result in harm.

It is imperative that the hair and scalp be entirely freed from soap, and the process of rinsing must be repeated as many times as is necessary to accomplish this purpose. To the final rinse water a little acetic acid or lemon juice is sometimes added with benefit. The hair and scalp should then be thoroughly dried in front of an open fire or in the sunlight, by the use of soft, warm towels, and by occasionally shaking and passing the spread fingers through the hair. A gentle fanning may be used to hasten the drying, but the use of a hot blast from an electric blower is harmful. Should the scalp and hair be dry and harsh, the application of a bland oil to replace the natural oil which has been removed by washing will be of benefit. This may be supplied by the addition of a small quantity of sweet almond oil to the last rinse water; or pure olive oil, pure castor oil, sweet almond oil, any medicated ointment, or white sterile vaseline may be rubbed into the scalp. If oil is used it is best applied with the

aid of a medicine dropper; if vaseline or a medicated ointment is used the hair should be parted at short intervals and the preparation rubbed into the scalp with the finger tips; the hair should then be thoroughly brushed with a clean brush in order to restore tone and to distribute the oil through the hair.

The Frequency of the Shampoo.

The frequency of the shampoo depends entirely upon the condition of the hair and scalp; if very oily or much exposed to dust and dirt the shampoo should be given as frequently as is necessary to keep them clean. This may require a shampoo every week, but ordinarily a shampoo every third or fourth week is sufficient. Men who are exposed to dust and dirt should shampoo more frequently than women whose hair is long, less exposed to contamination, and usually better protected than the hair of men. When using tonics or other medicinal preparations on the scalp, the hair and scalp should be shampooed at least once every two weeks; while hair that is abnormally dry should not be washed with soap and water except at long intervals — afterward applying to the scalp with medicine dropper a little sweet almond oil or castor oil diluted with 20% of alcohol.

Apparent Loss of Hair Due to the Shampoo.

One may experience a sense of shock when they see the large amount of hair that may have been washed from the scalp in the course of a shampoo; but this is hair that should be removed since it is dead hair, and should be replaced by a growth of new hair. The hair so shed is not lost *by reason* of the shampoo, but *in spite* of the shampoo, since the shampoo properly given will correct the very conditions which are responsible for its fall.

The Addition of Chemicals to the Shampoo.

Care should be observed in the addition to the shampoo of various chemicals advocated by many hair dressers. Carbonate of Soda in the proportion of a teaspoonful to a pint of water may prove of benefit if the hair and scalp is very oily, or if the hair is being prepared for the application of a dye. Ammonia is also frequently used to free the hair and scalp from oil; but the too frequent use of these drugs will lighten the color of brown and blonde hair, and leave it dry and brittle. Chemicals should not be added to a shampoo mixture intended for use on white hair, as special treatment is necessary, the directions for which are given in the chapter devoted to that subject.

The Dry Shampoo.

Originally a "dry shampoo" referred to the use of a fine powder composed of an inert substance of which powdered corn meal or powdered orris root are good examples. Later liquid dry shampoos containing ingredients of a volatile nature came into existence, and the term "dry shampoo" is applied to them on account of their rapid drying properties. Each variety has special indications for its use, and may be employed alone or in conjunction with one another. The dry shampoo is advised when for any reason the employment of an ordinary shampoo is harmful. In the treatment of white hair, for those who possess an oily scalp that does not need a regular shampoo, for those whose scalp secretes too little oil and is harsh and dry with faded, brittle hair, or for those who take cold easily, the dry shampoo may be recommended.

DRY SHAMPOO FOR OILY HAIR.

No. 1.

Sprinkle hair with corn meal. This will be found beneficial as it absorbs the oil and removes dirt. The preparation should be brushed out with a stiff brush. White corn meal is the best for all general purposes.

℞

No. 2.

Corn meal, one part;
Powdered orris root, one part.

LIQUID AND POWDER DRY SHAMPOO FOR OILY HAIR.

Moisten the scalp and hair with alcohol or Eau de Cologne, after which they should be thoroughly dried by passing the spread fingers through the hair or with a soft towel. Then part the hair in small strands, and with the dry shampoo powder in a perforated can, sift the powder onto the scalp, and gently massage for a few minutes; then thoroughly brush out using a stiff brush. This treatment will not only serve to remove all superfluous oil and foreign matter, but will render the hair soft, lustrous and fluffy. If the hair contains much oil when the powder is applied, some difficulty may be experienced in removing it.

The following preparation makes a refined shampoo powder. It should be used as the preceding.

℞

No. 3.

Powdered orris root.....	1	ounce
Talcum	1½	ounces
Starch	2	ounces
Oil of Lemon	6	drops
Oil of Bergamot	8	drops
Oil of Neroli.....	4	drops

Mix the powders and add the oils.

The following dry liquid shampoo will be found most excellent for use upon oily hair when for any reason it is best to avoid a regular shampoo. The hair and scalp should be kept in good condition by requent ventilation, and by brushing the hair and scalp to remove all foreign matter. The Hair should be parted in small strands and the mixture applied to the scalp with a soft sponge.

DRY LIQUID SHAMPOO.

R	No. 4.	
	Chloroform	2 drams
	Eau de Cologne.....	2 ounces
	Mix and apply.	

Manipulate the scalp and hair with the fingers until dry, and follow with a thorough brushing.

Special Shampoo Mixtures.

The use of egg in the shampoo mixture is advocated when the scalp is thin and dry and the hair is brittle and rapidly falling.

R	No. 5.	
	Hot water	1 pint
	Oil of sweet almonds.....	20 drops
	Yolk of one egg.	
	Perfume	to suit
	Mix.	

Saturate the hair and scalp with the shampoo mixture and gently massage into scalp with finger tips; then remove all traces of same by repeated rinsings with warm water and dry with soft warm towels.

This procedure will be found very refreshing and beneficial to the scalp and will leave the hair in a beautiful fluffy condition.

No. 6.

℞ LIQUID EGG SHAMPOO.

White of one egg.	
Borax	1 ounce
Glycerine	2 drams
Bay rum	4 ounces
Water	5 ounces

Beat the egg and dissolve in a portion of the water; dissolve borax in remainder of water. Mix all the ingredients and strain.

Use as the preceding.

The following shampoo is a true *Egg Julep*, and has found much favor in the fashionable English hair-dressing establishments:

℞ No. 7.

Egg yolk	2 fluid ounces
Chloroform water (saturated)	2 fluid ounces
Triturate thoroughly and add:	
Concentrated infusion of Quillaja	1 ounce
Salicylic acid	5 grains
Camphor	10 grains
Borax	25 grains
Eau de Cologne	3 fluid ounces
Saturated Chloroform water, enough to make 1 pint.	
Mix thoroughly and strain through fine muslin cloth.	

DIRECTIONS: Thoroughly wet the hair with warm soft water and pour on one or two tablespoonfuls of the julep. Rub until a lather forms, then remove all traces of shampoo mixture by rinsing with warm water; and dry. After using this preparation the hair is left soft and pliant.

No. 8.

R IMITATION EGG JULEP.

Pure castile soap (inshavings).....	1 ounce
Water of Ammonia.....	1 fluid ounce
Lavender water	1 ounce
Alcohol 20% solution, enough to make...	1 pint
Mix. DIRECTIONS: Use as an ordinary shampoo.	

TAR SHAMPOO LIQUID.

The use of tar as a scalp application is indorsed by many specialists. The objection to its use is its disagreeable odor; but this objection is largely overcome when it is used in the form of a shampoo, of which the following is one of the best:

R No. 9.

Green or soft soap.....	1½ ounces
Potassium carbonate	2 drams
Oil of tar.....	15 drops
Alcohol	2½ ounces
Water	8 ounces
Mix, let stand a few days and filter.	

TONIC LIQUID SHAMPOO.

The following liquid tonic shampoo will be found most excellent. It has cleansing, stimulating, and anti-septic properties:

R No. 10.

Tincture Quillaja	5 ounces
Cologne water	2 ounces
Glycerine	1 ounce
Fluid extract of Jaborandi.....	2 ounces
Quinine Sulphate	20 grains
Orange flower water, enough to make.....	1 pint

Mix the cologne, flower water and tincture Quillaja; dissolve the quinine in the mixture, add the remaining ingredients and filter. Apply as an ordinary shampoo.

SPECIAL SHAMPOO FOR INFLAMED, ITCHING SCALP.

Shampoo hair and scalp in regular manner and while still moist saturate with lemon juice which should be allowed to dry; then apply the following mixture for ten minutes to the hair and scalp. One application is usually sufficient to effect a cure.

R

No. 11.

Water	1 pint
Sweet almond oil.....	15 drops
Spirits of Rosemary.....	20 drops
Yolk of one egg.	
Mix.	

This should be applied with gentle massage and the hair and scalp then rinsed in warm water and dried. If frequently applied, this treatment will lighten the color of brown, chestnut or blonde hair.

CHAPTER VI.

SCALP MASSAGE.

Beautiful Hair is Dependent Upon a Knowledge and Correct Practice of the Laws of Hygiene of the Hair and Scalp, With the Use of Proper Medicinal Preparations When Such Are Indicated. This Knowledge Does Not Come Intelligently of Itself, Nor Correctly From Ordinary Everyday Sources.

At the Present Time Every Line of Human Endeavor Has an Efficiency expert — One Who Studies Out the Best Way of Doing Things. The Success Achieved, However, Depends Not Only on Knowing How to Do Things, but Also Upon the Mental and Physical Ability to Put That Knowledge Into Practice.

The comparative shallow depth of the hair follicle, the angle in which the hair shaft is implanted in it, and the peculiar attachment of the hair bulb to the delicate hair papilla, make a proper method of massage imperative. A scalp properly massaged by the methods to be described is greatly benefited. Massage given by allowing the finger tips to slide about over the scalp in a circular motion, or any practice that causes undue strain upon the delicate hair organs, not only injures the hair growth, but hastens the advent of gray hair by interfering with the vitality of the cells through which the natural coloring matter is conveyed to the hair shaft.

Scalp Massage is a method of rubbing, kneading, or stroking the scalp with the hands or some instrument, for the purpose of increasing the blood supply and to

hasten the elimination of those waste products which have not been washed away by the cleansing action of the shampoo, and which may clog the hair follicles.

Stimulated by massage the arteries furnish a richer supply of blood to the hair papilla and directly increase hair growth. The under-lying connective tissue which contains the pigment carrying cells, is thickened and strengthened, thereby augmenting the deposit of pigment and preserving the natural color of the hair. The flow of sebum, or the secretion of the sebaceous glands, is increased, so that more natural oil is furnished to the hair and scalp, supplying in greater abundance the natural agent which renders the hair soft, smooth and flexible. The entire scalp becomes thicker and more freely movable over the skull, thus affording more favorable soil for hair cultivation. At the same time, the elimination of waste products is hastened through the agency of the venous circulation and the sweat glands.

Many ingenious mechanical instruments have been devised for massaging the scalp. Several varieties of vibrators, each with claims of special features, are to be found in numberless barber shops and hair-dressing parlors. Vacuum caps which are said to promote the flow of blood to the scalp through suction, and electrical apparatuses which supply the high frequency current, or the violet rays for application to the scalp, have their advocates. Properly used, they are each productive of some good; but an experience with practically all of the mechanical agents used in massaging the scalp leads us to prefer the use of the bare hands as the most effective agent.

To Properly Massage the Scalp, place firmly the palms of the hands upon the sides of the head with the

fingers slightly separated one from another, and with sufficient distance between the ends of the fingers of the two hands to permit a fold of scalp being pinched up when the hands are shoved together. This manner of pinching up successive folds of the scalp should be repeated continuously until the entire scalp surface is reddened and warmed. Since the object of massage is scalp stimulation, the following method may be used alone or alternated with the preceding: With the fingers of both hands clasped over the top of the head and pressed firmly against the scalp, rotate it from side to side and forward and backward, changing the position of the hands as needed to treat the entire scalp; and massage a sufficient length of time to produce a tingling sensation. When practicing massage do not permit the hands to slip from their position on the scalp as undue strain or pulling upon the hair roots will result in harm. A very gentle, pleasing massage effect can be achieved by passing the spread fingers of each hand close up along the sides and over the top of the head, and exerting gentle traction upon the hair when moving the hands outward toward the ends. This serves not only to mildly stimulate the scalp structures, but also aerates the hair and scalp. Massage applied but once each week or ten days is of no practical benefit. To be effective, it must be practiced for a period of thirty minutes, three or more times a week if given by a professional masseur. The best results however can be secured by massage self-administered, if the scalp is treated for ten minutes daily in the manner described. Should the scalp be thin and tightly bound to the skull, the application of hot towels to relax it before massage is given will prove of great assistance.

Massage of the Scalp as a Remedy for Falling Hair is Valuable Only When the Scalp is Free From Dandruff or Other Diseased Conditions. Should Dandruff or Disease be Present, a Massage May Aggravate Any Existing Unhealthy Condition and Spread the Disease Over the Entire Scalp.

Normal amount of dandruff is a normal condition of the scalp - as a result of sebaceous secretion waste.

CHAPTER VII.

HAIR CURLING AND HAIR STRAIGHTENING.

Crisp curling hair has always been regarded with the utmost favor by those who desire to possess beautiful hair, and the curling locks of man or maiden have inspired pæans of praise in song and story throughout the ages. To satisfy the desire of that great multitude upon whom Nature has not seen fit to bestow naturally curling hair, a harmless method to achieve that desired end has long been sought. Countless medicinal agents, and a multitude of mechanical devices used either alone or in combination with moist heat or electricity, have been recommended. It is undoubtedly true that the hair wave produced by means of mechanical devices is more lasting than can be secured by medicinal agents, yet we do not recommend their use as the employment of such devices results in permanent injury to the hair; although the injurious effects are not apparent until after a lapse of time. Even the so-called permanent curling or waving is not permanent in the strict sense of the word. It has been our desire to supply harmless methods of curling the hair; and while the curling effect is not permanent, the wave is retained for a considerable period of time and no injurious consequences result. There are numerous hair-curling fluids advertised, and many of them are extremely harmful. Paris hair dressers use a preparation known as "Secretage" which is advertised to permanently curl the hair. It is composed of a solution of mercury and nitric acid diluted with water. A somewhat similar preparation is employed by fur dealers in the treatment of hair used

in the making of fur coats, collars, muffs, etc. These powerful preparations should never be used as they may practically ruin a fine head of hair. The following preparations are of a mucilaginous, alkaline, or resinous character; and when applied hold the hair in curl. They can be used without fear of danger, and their use will be found very satisfactory. After applying, the hair should be put up in curl papers or kids; or the effect may be made more permanent by the use of the curling tongs heated sufficiently to add permanence to the curl without injuring the hair.

Hair Curling Liquid.

No. 1.

℞ FOR KEEPING THE HAIR IN CURL.

Powdered Borax	4 drams
Gum Arabic	18 grains
Spirits of Camphor.....	3 drams
Water	8 ounces

Dissolve the solids in warm water, cool and add the camphor. Apply freely to the hair and roll in papers. Dry.

No. 2.

℞ FOR CURLING WITHOUT PAPERS.

Sodium Bicarbonate	1 dram
Borax	1 dram
Cologne Water	4 drams
Alcohol	4 drams
Tincture Cochineal	2 drams
Water	6 ounces

Dissolve the soda and borax in the water, add other ingredients and strain. The addition of 5 grains of Fuchsin will impart a beautiful red color.

To apply, moisten the hair thoroughly and the hair will curl upon drying.

No. 3.

The following preparation will be found very efficient, and its perfume is delicate and pleasing:

℞

Ammonium Chloride	30 grains
Potassium Carbonate	$\frac{1}{2}$ dram
Extract of Jassamine.....	1 dram
Extract of White Rose.....	1 dram
Glycerine	1 dram
Alcohol 90%	4 drams
Powdered Tragacanth	30 grains
Water	9 ounces

Triturate the tragacanth thoroughly with the alcohol; then add sufficient water and the glycerine to make a mucilage; mix in the perfume, and finally the remaining ingredients dissolved in the remainder of the water. Five grains of Fuchsin added to this prescription will produce a beautiful red color.

DIRECTIONS FOR USE: Moisten the hair, after which it should be adjusted loosely when it will curl on drying. A more pronounced curl may be secured if the hair is put up in papers or kids; and the process of drying is hastened by the use of a curling iron slightly heated.

No. 4.

℞

Carbonate of Potash.....	1 dram
Water of Ammonia.....	2 drams
Alcohol	4 drams
Fuchsin	4 grains
Rose Water	9 fl. ounces

Mix and apply as in the preceding prescription.

Kinky Hair.

Kinky hair is due to a flattening and twisting of the hair, which causes the hair shaft to assume a sharply bent form. It is manifestly impossible to make the hair permanently straight unless the hair shaft is perfectly round and smooth. While it is not possible to remove the tendency of the hair to kink, we believe the continued application of the following preparation will materially aid in straightening it.

℞

1.

Beef Suet	4 ounces
Yellow wax	4 drams
Castor oil	4 drams
Benzoic acid	3 grains
Oil of Lemon.....	15 drops
Oil of Cassia.....	4 drops

Mix the suet and wax, add the castor oil and acid; slightly cool the mixture and incorporate the other oils.

DIRECTIONS FOR USE: Rub preparation into scalp thoroughly with finger tips, after which the hair should be vigorously brushed.

(This preparation is especially adapted for use by colored people.)

Kinky hair is also straightened in the following manner: The hair should be shampooed and thoroughly dried. Beginning at the top of the head, separate a small strand of hair and after thoroughly saturating it with a good quality of hair oil, take a pressing iron which has been heated to the proper temperature and close it on the strand as close as possible to the scalp. Insert a comb in the hair a short distance from the pressing iron in order to prevent the hair from tangling, then draw the

iron slowly toward the end of the strand. Proceed in like manner until all the hair has been treated. Care should be exercised that the iron is not heated sufficiently to burn the hair. This process, which will leave the hair with a slight wave, should be repeated as often as is necessary to produce the desired result.

CHAPTER VIII.

HYGIENE OF THE HAIR AND SCALP OF CHILDREN.

Eighty-five per cent of Alopecia Praematura or Premature Loss of Hair before the Age of Forty-five years is due to Ignorance or Neglect of the Laws of Hygiene, or to Improper Care of the Hair and Scalp of Children before the age of Puberty. A realization of this startling fact and what its future meaning is to one's boy or girl should awaken every parent to the necessity of a personal supervision of the hygiene of the children's hair and scalp if they would insure to them a healthy, attractive head of hair in later life. If you want your children to possess beautiful hair, give it your attention during their childhood. See that their scalp is kept clean and in a healthy condition; instruct them in the right way to brush, shampoo and massage the scalp and hair, so that in later years you will be rewarded by their gratitude, and your children will possess luxuriant, healthy hair. Every normal child comes into the world with a rudimentary but abundant growth of hair; and to conserve and foster this valuable physical asset is the duty of every parent. *From the Time of Birth, Hair Health Should be Promoted; not by the Indiscriminate Application of Lotions and Ointments to the Hair and Scalp that is Healthy, but by Attending Promptly to the Slight Hair Needs as they Arise. Remember that Medication is not Required unless to Meet Special Conditions.* The laws of hygiene should be observed and the proper knowledge that will enable the child to care for its own hair should be imparted. Provide your child with a brush and comb for its individual

use and teach it to keep them clean. The average mother gives her child's hair a periodical wash and thinks her obligation ends there, when in reality this is a very small part of her duties. There is a correct way to wash or shampoo the hair, and the correct way of so doing should invariably be followed. *Do not Permit Frequent Wetting of the Hair in Order that it may Lie Smooth when Brushed; or Permit the Indiscriminate use of Water on the Hair and Scalp for any Reason.* One of the causes of early baldness results from the practice of frequently wetting the hair without perfect drying; and is due to the fact that water makes an emulsion with the scales of the skin and with the sebum, which hardens and plugs up the mouths of the hair follicles; thus sealing up those secretions in the scalp which should be thrown off, and resulting in a loss of hair vitality. Much attention is paid by parents to the care of the teeth of their children and rightfully so; but the importance of healthy hair and scalp, when considered from a hygienic as well as cosmetic point of view, is totally neglected or entirely undreamed of. Explain to your child the danger of contracting scalp disease by wearing other children's hats and point out the benefits of massage, following the method used in massaging the scalps of adults.

If the future human race is to be adorned with beautiful, luxuriant hair, intelligent supervision should be practiced from infancy. In most instances this supervision will consist merely in prohibiting certain injurious practices—such as too frequent wetting with insufficient drying of the hair—rather than the application of medicinal preparations which are not indicated.

The Shampoo.

At the time of birth the body of a new born child is covered by a sebaceous deposit which is more difficult of removal from the hair and scalp than from other parts of the body; hence the necessity for the first shampoo which should be thoroughly cleansing in its action. Properly performed it serves as an insurance against various inflammatory diseases of the hair and scalp which might lead to a serious marring of hair beauty in after life. This is best accomplished by saturating the scalp with oil of sweet almonds, olive oil, white sterile vaseline, or any non-irritating oil of which these are good examples. Massage the scalp gently with the oil, after which it should be thoroughly washed, using a pure soap and warm soft water. One such treatment is usually sufficient to remove all foreign matter from the hair and scalp; but if they are not left entirely clean by the first shampoo, the process should be repeated daily until the desired results are obtained. The application of a small amount of oil until such time as the scalp is covered with a protective growth of hair, is advisable to aid in maintaining the proper warmth of the head. For older children a shampoo once every two or three weeks is usually sufficient to keep the hair and scalp in good condition. It should be prepared and applied the same as for an adult.

The Brush and Comb.

When the hair has attained an appreciable growth, parents should be particular to provide each child with a brush for its exclusive use. Many cases of hair and scalp disease which result in baldness in later life are due to the transmission of disease by means of the family hair brush which had been used upon the scalp of the child. The

brush best adapted for the care of the hair and scalp of children should have long, soft bristles which would permit only of a gentle cleansing and mild stimulation of the scalp. The correct method of brushing the hair is the same for children as for adults, and has been fully described.

The Use of a Comb in caring for the hair of infants is unnecessary unless to meet the requirements of some rare special condition. The routine employment of a fine toothed comb may irritate the scalp and cause an eczema, while it serves no purpose not obtained by the use of a brush. Under no circumstances should crusts or scales be removed with a comb. If scales or crusts are present, soften them with oil and remove by washing. In older children a comb of proper form may be permitted. The hair of the small child should not be artificially curled, but worn straight and loose.

Hair Cutting.

In many cases the only hair cutting required will be the clipping of the ends of the hair, as short cutting has a tendency to coarsen the hair texture and should not be resorted to except for special reasons. For hygienic reasons it is sometimes best to keep the hair of children short until they have reached the age when they can intelligently perform the ordinary services which the scalp and hair health and growth demand; but after that period the hair of girls should be allowed to grow, providing that under the changed conditions the rules of hygiene can be observed. While the texture of the hair naturally becomes coarser and the color deepens with age, yet we believe that frequent cutting has a tendency to hasten these changes; and the coarser texture, for which frequent cutting is partly responsible, is readily seen on the face in the ensu-

ing change of fine, downy hair to stiff, thick beard — the result of shaving.

The scalps of children are affected by the same conditions that produce the loss or disorders of hair in adults. The scalp should be carefully searched for signs of dandruff, as it is of even greater importance to correct diseased conditions when occurring at an early age than at a later period of life. Oil should be applied if needed to correct abnormal dryness, or an *excess* of oil should be remedied if conditions warrant. If the ends of the hair are split they should be cut off below the cleft, and a systematic course of medication with massage should be instituted. When the hair becomes strong and vigorous the rules of hygiene as laid down for adults should be followed.

Eyebrows and Lashes.

Particular attention should be paid to the cosmetic care of the eyebrows and lashes of children. While dyes or stains should not be used, every means to insure brows and lashes of correct form and abundant growth should be adopted. If needed, stimulating hair oils should be applied, and the brows thoroughly massaged. Any existing irregular growth of hair should be corrected and trained to occupy its proper form and position after the method laid down for adults as described in the special chapter devoted to The Care of the Brows and Lashes.

CHAPTER IX.

HYGIENE OF WHITE HAIR.

White hair is not necessarily the result of, nor the accompaniment of age; rather it is one of its compensations. It is a natural law that the color of the hair must match the color of the skin and usually the color of the eyes; and whilst the transition from colored to uncolored hair is in progress, we find accompanying this change a softening of the facial features, a finer texture of the skin, and a change in shade of the complexion and eyes to harmonize with the changing color of the hair. As a direct result a *spirituelle* expression of the face is created which is enhanced by a framework of softly waved masses of white hair; and upon those whom the passing years have gently caressed it confers an atmosphere of refined beauty and distinction that no other shade of hair can impart.

While the possession of beautiful white hair is responsible for this new charm, it exacts as penalties for the proper preservation of its more delicate shade, greater care and attention than is demanded from the possessor of colored hair. More consideration should be exercised in the giving of massage, shampoos, and other details of hygiene, and keener discrimination exercised in the choice of scalp and hair preparations; but such care and discrimination does not mean neglect by withholding the demands of hygiene when needed, for fear of entailing injury.

The fact that hair has turned white does not imply that it has lost its vigor or that it may not be of luxuriant growth. While we are accustomed to believe that white

hair indicates the laying on of the ravaging hand of time, this belief like many others is not founded on physiological facts. The whitening of the hair indicates that a change in the chemical constituents and texture of the hair shaft has occurred, but not necessarily a lessening of the blood supply which is mainly responsible for the maintenance of hair vitality. Changes due to the lapse of time naturally occur in the hair and scalp as in the other structures of the body; but nature provides as compensation certain rewards for the change of color, in order that nature's balance may be preserved.

General Suggestions.

One must not forget that white hair requires care and nourishment to maintain its health and vigor; and that the proper treatment of white hair is based upon common sense. To acquire or maintain its greatest beauty white hair must be kept entirely free from foreign matter, with no hint of the yellowish tinge so frequently seen and which is usually the result of improper treatment. The greatest care in giving the shampoo is necessary in order that all waste products may be eliminated and that the color may not be dulled by the use of ill advised cleansing preparations, or the hair broken through rough handling. Only the purest white soap should be used in preparing the shampoo mixture, and the few hair or scalp lotions suitable for its preservation should be selected with the greatest care. Massage properly given is imperative in order that the vitality of the scalp be maintained so that the hair may receive sufficient nourishment to maintain vigorous health. Therefore, stimulate the blood supply to the hair roots by massaging the scalp, employing the correct methods described under "*Massage*"; using care of course, but *Massage the Scalp!*

The larger portion of mineral matter found in white hair, together with the presence of the numerous cellular air spaces found in the hair shaft, render white hair more brittle than colored hair and explain why it requires more careful handling when being dressed or shampooed. Avoid twisting or sharply bending the hair or inflicting violence of any nature when using the brush and comb; and these articles must be kept absolutely clean of foreign matter which would soil the hair and mar its lustre. When shampooing be particular to avoid the use of hard water, or water that contains lime or iron, as the lime will be deposited on the hair and render it dull and lustreless, while the presence of iron will cause it to appear stained or streaked. Soft water that has been strained, or distilled water, should be used if the best results are to be obtained.

Choice of Soaps.

There is not the wide latitude in the choice of soaps used in shampooing white hair that there is in cleansing colored hair. The ideal soap is pure and absolutely free from coloring matter of any description. A pure white castile soap is very good; but as there are many kinds of castile soap, and as not all of them are absolutely white or pure, one should obtain a guaranteed article. The use of an inferior or tinted soap may ruin the appearance of beautiful white hair by leaving it gummy, with slightly discolored streaks or patches, and a dulling of the lustre to which is due in great part its beauty.

The Shampoo Mixture.

The best shampoo mixture is of the consistency of a thin paste and is made by shaving the selected soap and dissolving it in hot water. This can be used alone; or if

desired the whites of two eggs may be added to one-half pint of the soap solution and well beaten up; the latter making an ideal shampoo mixture for white hair.

To apply, wet the scalp and hair with this solution and proceed in the manner described for the ordinary shampoo; after which all traces of the cleansing agent should be most thoroughly removed by rinsing the hair and scalp repeatedly in warm soft water.

Should the Hair to be Shampooed be Especially Greasy the following method of shampooing will be found most valuable. First remove the excess of oil by drawing the strands of hair through a soft cloth (cheese cloth or sterile gauze is best) saturated with alcohol or cologne spirits, or equal parts of lemon juice and hot water may be used in place of the alcoholic solution if preferred; after the excess of oil has been removed apply the shampoo and follow by several rinsings of soft water, and then by the tinted blue water to be described.

The Use of Indigo.

The addition of indigo to the water serves to impart a silver white lustre which can be secured in no other way, and should be applied by adding to the final rinsing water sufficient indigo to give it a slight bluish tinge, or by spraying the hair with the indigo water by means of an atomizer. Procure *pure indigo* for this purpose as the ordinary bluing used in laundry work will not give the proper tint.

Drying the Hair.

Only moderate heat should be applied to white hair and it should always be dried by hand, using soft, warm towels, or if desired gently fanned to hasten the process.

Avoid the use of an electric dryer, as it is even more objectionable in drying white hair than colored hair.

Dry Shampoo. White Indian meal will serve all purposes best; it should be sprinkled over the scalp, gently massaged by the fingers, and then removed by a thorough brushing. On account of the changed chemical composition of white hair, and the diminished amount of natural oil, the shampoo should be employed only at rare intervals.

Bleaching.

The most beautiful color of white hair is the white silvery tint which can be acquired only when the hair is entirely free from a yellowish tinge and from foreign matter. If the yellowish tinge is present it can be removed by a harmless and efficient bleaching agent composed of equal parts of lemon juice and hot water. In preparing this be particular to exclude any particles of the peel or juice of the peel. The scalp and hair should be thoroughly saturated with the bleaching solution and covered with a warm moist towel which should be allowed to remain upon the head from ten to twenty minutes; follow this by a general shampoo of selected soap and soft water, after which all traces of the cleansing agent used should be thoroughly removed by repeated rinsings in warm soft water; a final rinsing of water very lightly tinted with liquid indigo, or by spraying the indigo mixture over the hair with an atomizer, as described, will complete the operation. The hair should then be thoroughly dried and brushed with a soft brush.

Application of Oil.

It is often necessary that an oily preparation be applied after the shampoo, since on account of the changes

in the hair shaft more of the natural oil is removed from white hair by the process of shampooing than from colored hair. The hair and scalp having been thoroughly dried, a small amount of equal parts of pure glycerine and rose water may be rubbed into the scalp; or if vaseline is preferred, use only the fine white sterile variety.

The Brush and Comb.

The brush and comb should be used in the correct manner already described in the chapter on Hygiene of the Hair.

Hot Curling Irons are especially harmful to white hair, and if hair tongs are used they should be but moderately heated and wrapped with white tissue paper in the manner described under "*Hot Curling Irons*", in order that too great heat may be avoided. Neglect to properly regulate the temperature of the iron may result in unsightly discolorations and grave injury to the hair substance. In many instances sufficient wave can be given to straight white hair by slightly dampening the hair with alcohol and loosely rolling it on silk curlers.

Hair Tonics.

The indiscriminate use of tonics or scalp preparations or oils should be avoided by the possessor of white hair. If a liquid preparation is to be used, apply directly to the scalp with a medicine dropper; if an ointment, make frequent partings and apply, always massaging the application into the scalp with the finger tips, avoiding as far as possible contact with the hair.

In the choice of a preparation intended to meet the requirements of some particular condition a suitable selection can be found in that chapter which treats of the subject in view.

CHAPTER X.

ALOPECIA—LOSS OF HAIR.

Time was when any man or woman who used a preparation to increase the growth of the hair, or applied any agent to preserve or restore its original color was adjudged guilty of an immoral act. Today there is a complete reversal of sentiment, and the man and woman who neglects to use any harmless means at their disposal for retaining or restoring their youthful appearance, are the ones to be adjudged guilty; and rightfully so.

Age is a relative thing, since it is a self-evident truth that an individual is as old as he looks. If you look old, you are old; and the ravages of time entail a condition that is to be remedied or deferred as long as possible. This may be accomplished by a close observation of the laws of hair and scalp hygiene to preserve the growth and freshness of the hair; by the use of those medicinal agents which prevent the destructive effects of disease that affect directly or indirectly the hair and scalp; and by conserving the strength and promoting the general health of the body.

Proper massage to increase capillary circulation, to regulate the secretions of the scalp glands and to restore tone and vitality to the scalp and hair is an important part of hair culture; but it is only a part of the means to be used if the desired results are to be obtained. The scientific care and culture of beautiful hair lies entirely within the domain of modern medicine, which recognizes no fads nor faddists, nor does it admit that the means of obtaining healthful, beautiful hair lies in practicing the par-

ticular and limited methods of a favored few. The physician who believes that hair strength and vitality is to be found in a bottle of medicine or a jar of ointment, is just as narrow and errs just as widely from the truth as does the professional masseur who thinks that the true means of bringing about these desirable ends is to be found only in massage of the scalp tissues, or as they are pleased to term it — “the practice of the *Natural* way to restore the hair.”

Each system has its truths and holds much that is good, at the same time containing much that is evil. One would not apply a tonic alone and expect the scalp to increase in strength and thickness, with an immediate growth of lustrous healthy hair, any more than one would expect to cure a scalp covered with diseased patches due to the dandruff germ or other morbid agents, and restore perfect health by the extremely dangerous practice of massage or so-called special scalp manipulation, while such diseased condition existed.

The perfect treatment consists in taking only all that is good from the several different methods and combining them into one perfect whole.

The practice of medicine, of which successful hair culture is a part, is based on common sense. There is no mystery about hair, no exclusive means of treatment, no royal road to beautiful hair. We believe that a few minutes of your time daily, with careful observance of the laws of hygiene and the application of proper remedial measures as laid down, will insure hair that is natural in color and normal in quantity to practically the end of life.

Alopecia—(al-o-pe-se-ah)—*an abnormal deficiency, or a complete loss of hair from any cause; baldness.*

The loss of hair may be partial or complete, congenital or acquired, and slow or rapid in its progress.

Congenital Baldness.

Congenital baldness or Alopecia Adnata, is that form of baldness which is due to imperfect development, or entire absence, of the hair producing organs. This form of baldness is present from birth, is seldom complete, and is very rarely found. An insufficient development of the hair producing organs can result only in very imperfectly developed fine hair, which grows in isolated spots or in thin patches over varying regions of the scalp.

Treatment.

If the scalp is entirely bald, the wearing of a wig is the only means for correcting this unsightly condition. Should there be a very fine growth of Lanugo hairs over the scalp, vigorous and persistent massage, with the application of stimulating hair tonics should be given a thorough trial. For this purpose the use of some one of the stimulating formulas given for the cure of alopecia praematura symptomatica will be found of great service. Failing to achieve satisfactory results recourse must then be had to the wearing of wigs.

Acquired Baldness.

It is with the acquired form of alopecia, or the partial or complete loss of hair arising from any cause, that we have to treat. There are several forms of acquired loss of hair to which specific names are given, the name indicating some peculiarity descriptive of the form or cause of that particular form of baldness to which it is applied.

Alopecia Praematura.

Alopecia Praematura, or *premature loss of hair*, is that form of baldness which occurs before the age of forty-five years, at that time when the body functions should be at their greatest vigor.

Alopecia Senilis.

Alopecia Senilis, or *senile alopecia* is that form of baldness which occurs as the result of a general impairment or complete loss of hair forming organs, due to old age.

Alopecia Areata.

Alopecia Areata is that condition in which suddenly or slowly, one or several patches or areas of baldness appear upon the scalp and parts covered by the beard.

ALOPECIA PRAEMATURA—EARLY LOSS OF HAIR.

Of the following forms of Alopecia or baldness with which we have to do, Alopecia Praematura is by far the most important. There are two principal forms of premature loss of hair. *Alopecia Praematura Idiopathica*, which seemingly results from no definite exciting cause. The scalp is apparently free from disease, the general health may be fairly vigorous, yet in spite of these favorable conditions the loss of hair may be continuous and complete. *Alopecia Praematura Symptomatica*, or the other form of premature baldness is due to some local disease of the hair or scalp, or both, such as dandruff or eczema, or to some systemic poison or disease occurring either as a result of body poisons following such diseases as Typhoid Fever, or constitutional diseases, of which Syphilis is a good example.

The Idiopathic Form of Alopecia begins before the age of forty-five years, usually in or sometimes before the early twenties, the loss of hair being constant and progressive, and results in complete baldness if prompt measures are not taken to restore sufficient vigor to the scalp to result in the growth or reproduction of stronger new hair. The loss of hair is usually most marked on the top

of the head, beginning at the forehead and extending backward and downward. Frequently a small patch of vigorous hair is left at the top and middle of the forehead, and its preservation is due to the fact that it is located over the body of the Occipito-frontalis muscle where the scalp is naturally thicker and the blood supply is more profuse.

It has been estimated that *At Least Eighty-five Per Cent of All Cases of this Form of Baldness Result From Some Diseased Condition of the Hair or Scalp Which Has Not been Properly Treated; or to a Non-observance of the Laws of Hygiene of the Hair and Scalp of Children Before the Age of Puberty.* In practically all of the remaining proportion of these cases the loss of hair is due to an hereditary tendency. In this form of baldness we find the following changes occurring in the hair and scalp. The walls of the blood vessels lose their elasticity, and the caliber of the vessels diminish in size so that a lessened amount of blood is available for the nourishment of the hair producing organs; the connective tissue of the scalp becomes more fibrous in character and gradually contracts, thereby causing an atrophy or wasting of the skin cells found within the scalp. Consequent upon the loss of vitality of the hair producing organs, the hair is prematurely shed. While this hair is succeeded by a new growth of hair, the new hair is finer in texture and of a weakened vitality. This process of shedding and new growth of hair is continuous, and each time the new hair growth becomes weaker and more delicate than the preceding one until there is a complete absence of hair. The fact that the loss of hair takes place much more slowly over the region of the Occipito-frontalis muscle, and that the hair of the beard is not effected because the under-lying tissues and blood supply are in a healthy condition, affords the most

convincing proof of the great value of the observance of the laws of hygiene together with the adoption of remedial measures to stimulate hair growth and health. Generally speaking, *a proper knowledge of the hygiene of the hair and scalp, together with the exercise of intelligent care of the hair and scalp of children before the age of puberty, is an almost positive guarantee that children will have a full complement of healthy, beautiful hair until those changes ensue which are the natural result of old age.* Therefore in treating all cases of Idiopathic loss of hair in youth or adult, bear in mind that a very important part of the treatment consists in practicing the laws of hygiene of the hair and scalp, in addition to applying those remedial preparations which may be necessary to assist faltering nature. When shampooing observe in detail the proper method of giving it; always dry the hair thoroughly and follow with the application of a hair oil if needed. Should the hair be dry and lifeless, however, the shampoo should be avoided altogether, or used but rarely to cleanse the scalp. Avoid the use of any head-dress that may bind the scalp.

To correct the evil effects of the scalp changes which occur in this disease, it is of the utmost importance that massage be applied thoroughly and systematically. At least ten minutes each day should be devoted to massaging the scalp, after which a stimulating tonic may be applied by means of a medicine dropper and thoroughly rubbed into the roots of the hair with the finger tips. Hair is of slow growth, and if the natural vigor and normal quantity of hair is restored the patient must faithfully persist with the treatment. The earlier in life the hair begins to fall the harder it is to check. Fresh air at all times is necessary; digestive disturbances should be corrected; and the general health should be promoted by the use of tonics

which will build up all the tissues of the body. Any liquid preparation should be applied a sufficient length of time before the bed hour in order that the hair and scalp may become thoroughly dry before retiring.

Treatment For Alopecia Prematura Idopathica.

Of the many drugs used for promoting the growth of hair, *Pilocarpin* is one of the most widely used. It is free from irritant properties and stimulates practically all the glands of the body. It not only promotes nutrition of the hair, but also possesses the power of darkening its color. It is usually applied to the scalp in the form of a lotion or pomade, and formerly it was given internally.

The following formula is much used by a celebrated French specialist who especially recommends it to correct the loss of hair so frequently seen in women. It will be found of marked value in remedying those cases of approaching baldness in which the hair and scalp is oily or greasy.

No. 1.

R PILOCARPIN — AMMONIA LOTION.	
Alcohol 90%	8 ounces
Spirits of Lavender.....	6½ drams
Spirits of Ether.....	6½ drams
Pilocarpin Muriate	4 grains
Water, enough to dissolve	
Liquor Ammonia	1 dram

Mix, and apply daily to the scalp with medicine dropper or rub into the scalp with the finger tips.

No. 2.

On account of the stimulating action of *Cinchona*, it may be combined with *Pilocarpin* to increase this property, in the latter.

R PILOCARPIN — CINCHONA LOTION.

Pilocarpin	1 dram
Cinchona	2 drams
Glycerine	4 drams
Alcohol, enough to make.....	8 ounces
Perfume	to suit
Mix. Apply to scalp as No. 1.	

No. 3.

The following preparation will be found especially useful in treating a scalp that contains an excessive amount of oil:

R	
Tincture of Jaborandi.....	4 drams
Quinine Sulphate	12 grains
Glycerine	3 drams
Cologne	1 ounce
Bay Rum	1 ounce
Rose water	5 ounces
Dilute Sulphuric Acid.....	20 drops
Mix.	

Apply daily to scalp with medicine dropper and rub in with brush or finger tips.

To PREPARE.—Dissolve the Quinine in the Rose Water with the addition of the acid, add the other ingredients and filter.

No. 4.

The following preparation has been widely used with much satisfaction. The Pilocarpin, Quinine, and Cantharides are among the best agents for stimulating the growth of hair; the Resorcin is of especial value in the treatment of dandruff and falling hair; and the Menthol has a sedative effect after brisk rubbing. Apply this preparation to the scalp by using a medicine dropper.

R

Menthol	4	grains
Tincture Cantharides	2	drams
Quinine Hydrochlorate	11	grains
Fluid Extract Pilocarpin.....	2	drams
Glycerine	2	drams
Resorcin	18	grains
Heliotrope Extract	30	drops
Alcohol	2½	ounces
Distilled water, enough to make.....	8	ounces

Solution of Chlorophyll, enough to give a beautiful green tint.

Mix. Sig.—Apply as directed.

Coal tar and petroleum oil were in the past used extensively in treating cases of premature baldness, and each of these preparations has enjoyed considerable reputation in promoting hair growth. Aside from the fact that they are extremely disagreeable to use on the scalp, in the light of present day knowledge their claims to usefulness as hair growers are not borne out by facts.

No. 5.

A preparation somewhat similar to the following has been used with great success by an eminent English authority. It has yielded excellent results in our hands.

R

Acetic Acid U. S. P.	4	drams
Pulverized Borax	1	dram
Glycerine	2	drams
Alcohol	3	drams
Rose water, enough to make.....	8	ounces

Mix. Sig.—Apply to scalp every other night and massage in with the finger tips.

No. 6.

The following preparation is an excellent stimulating hair and scalp tonic:

℞

Quinine Sulphate	8 grains
Tincture Jaborandi	4 drams
Tincture Cantharides	6 drams
Eau de Cologne	3 drams
Water	6 ounces

Mix. Sig.—Apply night and morning.

No. 7

This preparation is not so stimulating in character as No. 6. It is indicated when the scalp and hair is dry and brittle.

℞

Quinine Sulphate	20 grains
Glycerine	2 drams
Eau de Cologne.....	2 ounces
F. E. Jaborandi.....	4 drams
Water, enough to make.....	8 ounces

Mix. Sig.—Apply to scalp three or four times a week.

ALOPECIA PRAEMATURA SYMPTOMATICA.

Alopecia Praematura Symptomatica or the second variety of early loss of hair is the result of some local or constitutional disease, whereby the nourishment and growth of the hair is interfered with as a result of disease of the scalp or body. This form of baldness may occur at any time, its onset being dependent upon the time in life when the disease producing it is acquired. By far the greater percentage of this form of baldness is the

result of some form of dandruff. The dandruff may be present in the form of fine, dry scales which may be almost imperceptible to the eye, or in large, thick, greasy scales as large as the finger nail or even larger, and adherent to the scalp. The scalp may be reddened, dry, and somewhat hot to the touch. The hair is dry with a tendency to split ends, and has lost its lustre; or the scalp may be moist, apparently thickened and greasy to the touch; the hair in this case containing an excess of oil, with a tendency to mat together. The scalp in both instances is irritated, the sensation varying from slight itching to positive irritation. There is a constant and progressive shedding of hair, together with a loss of vitality and size in the succeeding growth of new hair. This process continues until the scalp is covered by a fine growth of downy hair, or complete baldness is established. The length of time required for these processes to be complete depends upon the intensity of the disease and the natural resistance of the hair and scalp.

Treatment For Alopecia Prematura Symptomatica.

By far the greater number of cases of *Alopecia Praematura Symptomatica* are due to the presence of the dandruff germ or some form of fungus. For the relief of this condition a preparation which will destroy germ life is necessary. If the dandruff present is in the form of fine, brany scales, the scalp should be thoroughly shampooed as described, and some one of the following local preparations used:

No. 1.

The following preparation will be found most excellent:

℞

Bichloride of Mercury.....	1 grain
Resorcin	2 drams
Chloral hydrate	2 drams
Castor Oil	50 drops
Alcohol, enough to make.....	8 ounces

Mix. Sig.—Apply to scalp with medicine dropper, or rub into scalp with finger tips.

No. 2.

The antiseptic properties of this preparation are greater than No. 1.

℞

Bichloride of Mercury.....	3 grains
Euresol pro. Capillis.....	2 drams
Spirit Formicarium	1 ounce
Castor Oil	2 drams
Alcohol, enough to make.....	8 ounces

Mix. Apply daily with medicine dropper or rub into scalp with finger tips.

No. 3.

This is an antiseptic, stimulating, efficient lotion. Perfumed with Rosemary it possesses a pleasing odor.

℞

Resorcin	90 grains
Tannic Acid	80 grains
Chloral hydrate	80 grains
Tincture Benzoin	50 drops
Castor Oil	3 drams
Spirits Rosemary, enough to make.....	6 ounces

Mix. Apply as Nos. 1 and 2.

These preparations should be applied to the scalp with a medicine dropper or thoroughly rubbed into the scalp with the finger tips once or, in severe cases, twice daily. It will be noticed that they contain Resorcin or a modification of Resorcin, and they should not be used on blonde or white hair on account of the property Resorcin has of staining the hair. The addition of twelve grains of salicylic acid to the preceding prescriptions will prevent the discoloration of blonde hair.

No. 4.

A French specialist of international reputation recommends the use of the following. On account of the oil of cade which it contains, the odor of tar which cannot be disguised is perceptible. The preparation is efficient

℞

Oil of Cade.....	3 ounces
Decoction of Soap bark.....	1 ounce
Yolk of Egg.....	1
Distilled water, enough to make.....	8 ounces

Mix. Sig.—Add three tablespoonfuls to a pint of water and use as a shampoo.

No. 5.

If an ointment is preferred the following will be found most excellent:

℞

Ammoniated Mercury	25 grains
Calomel	40 grains
Vaseline	1 ounce

Mix. Sig.—Rub thoroughly into scalp with the finger tips.

No. 6.

If the scalp is scaly and there are many thick, greasy crusts on the scalp apply the following:

R

Salicylic Acid	20 grains
Almond Oil	2 ounces

Mix. Rub into the scalp at night, and wash scalp with soap and water in the morning.

Repeat this process for several nights until the scalp is clean, when any of the preceding preparations may be used. After the scalp and hair have been entirely freed from all evidences of the disease, one of the stimulating tonics given in the chapter for Hair Tonics should be applied as directed.

DEFLUVIUM CAPILLORUM.

Defluvium Capillorum is the name given to that variety of Alopecia Praematura Symptomatica when the loss of hair is due to the effects of body toxins which interfere with the nutrition of, or directly poison, the hair papilla. The loss of hair usually follows an attack of some acute disease, especially Typhoid Fever; or some constitutional disease as Syphilis, for the cure of which mercury or Salvarsan has been used. Complete baldness rarely results; the hair more often becoming thin and scant with a loss of vitality, and a dull lifeless appearance.

Treatment of Defluvium Capillorum.

It will be readily understood from the nature of this trouble that observance of the laws of hygiene of the scalp, with the application of some mild stimulating tonic, to-

gether with the constitutional treatment by the physician, is all that is necessary to restore normal hair growth and health subsequent to an attack of fever, especially typhoid. It has been the practice in the past to close crop the hair or even to shave the scalp, in the belief that the hair cutting was necessary to a complete restoration of healthy hair. This is not true. Massage the scalp daily, shampoo only when necessary to insure cleanliness, and apply some one of the general hair tonics, formulae for which are given.

Falling of the hair or baldness resulting from the effects of Syphilis is corrected by constitutional treatment which is best given by a reputable physician. After the active stage of syphilis has passed, massage should be regularly employed, and the scalp should be kept clean by the shampoo. If dandruff is present proceed with one of the preparations given for the cure of dandruff.

PITYRIASIS CAPITIS—DANDRUFF.

Dandruff is the most common cause of Alopecia Praematura Symptomata, and we cannot conclude the subject of baldness without devoting more space to a general consideration of the cause and treatment of this disease. Pityriasis or Dandruff is that condition of the scalp which is characterized by a shedding, either scant or profuse, of minute brany scales which may fall to such a slight extent as to be hardly perceptible, or so profusely as to powder the clothing. The scales may be white, fine and brany, or yellow, thick, and greasy in texture. The scalp usually atrophies or wastes away, and the changes in the hair and scalp as described under Alopecia Praematura take place. This disease may extend over a period of many years; or it may be rapid in its course and persisting, if remedial means are not adopted

to check it, until the hair is entirely lost and complete baldness results. Dandruff, more than any other *Disease* is responsible for the greatest loss of hair. It is contagious, and one should be continuously on their guard to prevent infection. As has been stated, great care should be taken to avoid using any article or hair-dressing instrument, or any head-dress worn by another. Infection may be conveyed from one person to another simply by sleeping in the same bed. One of the principal symptoms of dandruff is scalp irritation varying in severity from a slight itching to a severe irritation.

There Are Two Forms of Pityriasis Capitis or Dandruff. The simple form in which the scales are fine and brany; and a form more chronic in nature, in which the scales partake more of the nature of thick greasy crusts. There is no question but that a form of bacteria is responsible for this disease. It is sometimes associated with other diseases of the scalp, especially Seborrhoea, with which it is frequently confused.

Seborrhoea is that condition in which there is an excess of secretions from the Sebaceous and sweat glands, together with the formation of small waxy filaments which are found in the skin follicles. In these cases the skin of the face, especially around the nose and on the forehead as well as the scalp and hair, is usually oily or moist with sweat, and by pinching up folds of the skin many fine white filaments may be pressed out of the skin follicles. For the cure of this condition the following preparation may be applied to the scalp night and morning:

℞

No. 1.

Bichloride of Mercury.....	2 grains
Resorcin	1½ drams
Tincture of Cantharides.....	4 drams
Glycerine	2 drams
Alcohol, enough to make.....	8 ounces

Mix. Apply with medicine dropper or by rubbing into the scalp with the tips of the fingers once or twice daily.

Either of the Acetic Acid preparations or the Resorcin Preparations given under the chapter on Alopecia will be found of much benefit; or the following will also be found useful:

℞

No. 2.

Chloral hydrate	1 dram
Resorcin	20 grains
Glycerine	½ dram
Alcohol	5 drams
Water, enough to make.....	4 ounces

Mix. Apply with a medicine dropper or by rubbing into the scalp with the finger tips once or twice daily.

While the ordinary condition of dandruff is well known to people in general, the destructive effects upon the scalp, with the consequent loss of hair, are not so well understood. It is very important therefore that dandruff be recognized early and prompt measures instituted for its cure. The fact that it is so very common is proof of its infective nature. In treating dandruff, especially when the scalp and hair are very oily, the shampoo, using an antiseptic soap, can be employed with benefit at frequent intervals. A shampoo once a week or even oftener will

be found beneficial, provided care is taken to thoroughly dry the hair. Alcohol can be employed to advantage and should be applied in sufficient quantities to wet the scalp if the hair is short. With women, if the hair is long as is usually the case, the hair should be parted and the scalp rubbed with a small sponge or piece of cloth saturated with alcohol. In case of very dry hair the application of an oil should be made to the scalp after the use of alcohol, or one or two teaspoonfuls of a good Castor oil may be added to a pint of alcohol and applied, as the alcohol will evaporate rapidly, and leave a deposit of oil.

ALOPECIA SENILIS—LOSS OF HAIR DUE TO OLD AGE.

In this form of baldness the loss of hair begins on the top of the head, proceeding from before backward, or from the back of the head, advancing toward the forehead; while the sides and back of the head may be apparently unaffected. Accompanying this condition we find gray hair or hair that is turning gray, together with other indications of diminished vitality. The changes in the scalp are due to atrophy or wasting, the result of old age, and have been practically described in the chapter on Premature Baldness.

When there has been a destruction of the hair growing organs due to old age, no treatment will create a new growth of hair. In this class of cases the "ounce of prevention is worth the pound of cure." When symptoms of approaching baldness due to old age appear, the fullest vigor of the scalp possible should be maintained by massage, together with the application of stimulating preparations which directly effect hair growth; for it is to prevent the early loss of hair in Premature Alopecia, and to retain the hair as long as possible in Alopecia Senilis,

that the practice of early prophylactic treatment is especially valuable. The children of today are the men and women of tomorrow, and if they are to possess in later life the heads of hair which Nature intended they should have, a too early observance of the laws of hygiene of the hair and scalp cannot be practiced.

Treatment of Alopecia Senilis.

Apply a stimulating tonic as directed, and if the hair is dry, rub in at frequent intervals Almond oil or Olive oil sufficiently often to keep the hair soft and elastic. Avoid frequent wetting of the hair and resort to massage for ten minutes daily.

ALOPECIA AREATA—BALD SPOTS.

Alopecia Areata is that condition in which suddenly or slowly, one or several irregular patches of baldness appear upon the scalp and parts covered by the beard. The loss of hair may be slow or sudden in its onset, and may or may not be accompanied by pain. In some instances there is a loss of sensation on the bald spots with an apparent change in the color or texture of the scalp; in others the denuded areas are reddened and a degree of irritation of the skin is present, varying in degree from a slight itching to a feeling of tenderness when the spot is touched. The margin of the scalp at the back of the head seems to be the favorite area for the loss of hair, although the bald spots may occur over any region. The number of patches may vary from one to a large number, and range in size from a fraction of an inch to four or five inches in diameter. The hairs around the margin of the bald spot are usually dry and brittle. This disease is usually of a chronic nature, with complete recovery in

the end if the proper course of medication is pursued. When recovery occurs the patch is first covered by a growth of fine hair; at a later period the fine hairs may again fall out, to be succeeded by a patch of light colored hair which gradually grows darker in color and coarser in texture. The cause of this disease is not definitely known. It is thought by some eminent authorities to be due to the presence of a parasitic skin disease coming on at an early period in life. Alopecia Areata may also be produced by the ill advised application to the scalp of preparations which excite a localized scalp disturbance.

Treatment of Alopecia Areata.

Any constitutional defect or illness should be corrected by appropriate remedies to build up the general health. The local treatment is of the utmost importance. All the loose hair surrounding the diseased areas should be plucked from the scalp and stimulating antiseptic tonics should be applied as directed. One of the best preparations in the treatment of this condition depends for its action upon the presence of acetic acid.

No. 1.

R ACETIC ACID — CHLORAL HYDRATE LOTION.

Acetic Acid crystals.....	4 grains
Chloral hydrate	2 drams
Spirits of Ether.....	2 ounces

Mix. Sig.—Apply to the bald spot daily. Should irritation of the scalp ensue the number of applications should be decreased or discontinued for a time.

No. 2.

℞ ACETIC ACID — RESORCIN LOTION.

Acetic Acid	2 drams
Resorcin	1 dram
Perfumed Spirit	1 ounce
Rose Water	4 ounces

Mix. Sig.—Apply to scalp with medicine dropper.

No. 3.

℞ ACETIC ACID — BORAX LOTION.

Acetic Acid	2 drams
Pulverized Borax	30 grains
Glycerine	1 dram
Alcohol	2 drams
Rose Water, enough to make.....	4 ounces

Mix. Sig.—Apply to scalp every other night and massage in with finger tips.

No. 4.

A preparation somewhat similar to the following has been used and highly recommended. In many cases the normal growth and color of the hair is said to have been restored in a few weeks time.

℞ PILOCARPIN OINTMENT.

Fl. Extract of Pilocarpin.....	3 drams
Lanolin	6 drams
Goose grease, enough to make.....	2 ounces
Oil of Rose Geranium.....	24 drops

Mix. Sig.—Rub thoroughly into the scalp at bed hour.

Should the bald spot to be treated be elsewhere than on the scalp, as is sometimes the case, the strength of the remedy applied should be reduced from one-third to one-half. Electric applications to the scalp through the medium of the X Ray or high frequency current, or simple mechanical massage have been advocated by some. We have not found any special benefit derived from these methods of treatment.

CHAPTER XI.

SYMPTOMS OF BEGINNING BALDNESS.

The average life of human hair varies from two to six years, dependent upon various conditions as stated under Physiology of the Hair. There is a constant shedding and new growth of hair during the life of an individual, and to know whether the balance between the loss and new growth of hair is maintained, it is well to have some method by which we can determine whether or not the shedding of hair is abnormal, in order that the proper treatment to prevent undue loss may be adopted. Hair that has attained its full growth and as we say has completed its natural life, is shed as we have learned — in the following manner: The hair root is loosened from the papilla and gradually moves upward until the hair bulb rests in the middle follicular region where it becomes attached to the external root sheath; from which it receives sufficient nourishment to prolong its life for two or three months, when it dies and falls from the head. All hairs that live out their allotted span of life pass into this stage and are known as bed hairs, while the middle third of the hair follicle where the hair bulb finally rests in its passage upward from the papilla is known as the hair bed. During the process of separation from the papilla and passing up through the follicle, the bulb becomes expanded and knob-like. After remaining in the hair bed for its allotted time the knob-like projection is lost; and when the hair is finally cast off we see only the full rounded end roots. *Hairs whose fall has been hastened by disease retain these knob-like, drawn-out*

ends; while the roots of hairs that have lived their normal length of life present no such enlargements.

To determine whether the definite proportion between hair growth and loss is disturbed as a result of disease, the following method may be employed.

Thoroughly wash the scalp, and a week later collect for three days the hairs that are shed, putting each day's fall in a separate envelope; a month later the hair is to be again saved for three days and the amount and condition of the fallen hair compared with that of the previous three days' fall. When the loss of hair is rapid, more hairs with knob-like roots and often with drawn-out epithelial projections will be found. The less this form of root is present the less the abnormal loss of hair is occurring, until only hairs which have the rounded, full roots are met with, which indicates that the abnormal shedding process has stopped.

The following method has been suggested as a means of determining whether the loss of hair is excessive as a result of seborrhoea or dandruff. When the proportion of short hairs to the total fall is as one to ten, the average length of the hair being two to three inches, or as one to eight, the average length of the hair being five or more inches, the loss is abnormal. Growth of new hair is evidenced by the appearance of new, fine hair which gradually becomes deeper in color and coarser and stronger in texture.

CHAPTER XII.

HAIR TONICS FOR GENERAL USE.

A hair tonic may be defined as one of a class of medicines which gradually and permanently increase the tone of the hair and scalp by imparting new strength, correcting functional debility, and thereby restoring healthy and vigorous life to the scalp and hair. By its local action it should sterilize the skin surface and hasten the removal of the old horny cells from the scalp, regulate the secretions of the Sebaceous glands, promote the absorption of infiltrations, and restore to normal size, tone and activity the blood vessels and lymphatic channels. It should be convenient to apply, pleasing to the special senses, and should leave a feeling of freshness and sweetness of the hair and scalp after application.

Commercial Hair Tonics.

An analysis of many of the leading hair tonics indicates that practically all of them owe their claim of virtue to their local effect upon the scalp. Their use is usually characterized by a burning sensation, accompanied by a reddened condition of the skin, the effects of local irritation rather than healthy stimulation. Tonics that produce an irritation of the scalp are harmful, and should not be used excepting in those rare instances when one is dealing with a parasitic disease of the scalp; and they should be discontinued as soon as the special purpose for which they were used has been accomplished. The usual hair tonic found on the market is made primarily to sell; and profit to the manufacturer is the first essential of its being.

Advertising cost must of necessity be considered, frequently to the detriment of the medicinal value of the tonic, and one preparation must meet the requirements of a multitude of diseased conditions which affect the hair and scalp; that one tonic can care for all these conditions is manifestly impossible. With these conclusions in view we submit in this book a variety of formulae from which the selection of a proper tonic most suitable for one's individual use can be made.

Individual Hair Tonics.

Several formulae of practically every medicinal agent possessing valuable tonic properties are given, either singly, or in the most effective combination; each ingredient having a definite action and serving a certain useful purpose. In addition to the principal ingredient there will be found in the various formulas other medicinal agents which furnish the vehicle, color and scent, or serve to enhance the action of those medicines which are the active agents of the prescription. Thus you may know the quantity and action of every medicinal agent used; and if the prescription is properly compounded and intelligently applied, ideal tonic effects must result. The following list includes special formulae endorsed by or used in the practice of the leading American, English, German and French specialists, and represents the latest scientific thought in hair tonics. The formulas are so described that the proper selection for one's individual needs can be easily made.

Tonic Suggestions.

Hair tonics should be put up in alcohol whenever possible, in order that the hair and scalp may dry rapidly and the hair may not be left wet and sticky. As a rule if

the scalp is dry and scaly, ointments should be used. *To properly use a hair tonic, remember that the object is to apply it to the scalp and roots of the hair rather than to the hair shaft.* This may be accomplished by means of a medicine dropper; by pouring the tonic into a shallow dish, and administering to the scalp with a small sponge or cloth; or if preferred, by dipping the ends of the fingers into the tonic and applying it direct. After application, massage it into the scalp, using the balls of the fingers, *not* the finger nails.

If preparations are being constantly used for the hair and scalp a shampoo should be given at least every one or two weeks; after which the hair should be thoroughly dried and a little oil rubbed into the scalp. Split and broken hair is usually the result of injury to hair that has become brittle from lack of oil. To remedy this condition sufficient oil to render it soft and elastic should be applied. Hair that is abnormally dry should not be washed with soap and water. In the evening apply sweet almond oil or castor oil diluted with 20 per cent of alcohol. In diseased or abraded conditions of the scalp it is safer to avoid local applications unless permission for their use is given by a competent physician.

Pilocarpin Preparations.

Of the many medicinal agents used for promoting hair growth, Pilocarpin is one of the best and most widely known. It is of especial value in restoring a normal healthy condition when the hair is dull and lifeless and the scalp is dry, by stimulating the fat glands of the scalp. It also has the power of darkening the color of the hair. Pilocarpin, while expensive, we regard as of decided service.

No. 1.

R PILOCARPIN — CAPSICUM TONIC.

Pilocarpin Hydrochlorate	12 grains
Tincture of Capsicum.....	4 drams
Ammonia water 10%.....	2 ounces
Cologne	5 ounces

Mix. Apply to scalp night and morning.

No. 2.

R PILOCARPIN — QUININE TONIC.

Pilocarpin Nitrate	16 grains
Quinine Hydrochloride	40 grains
Glycerine	4 drams
Rose water, enough to make.....	6 ounces

Mix. Apply to scalp with medicine dropper once daily.

No. 3.

R PILOCARPIN — CANTHARIDES TONIC.

Pilocarpin Nitrate	4 grains
Tincture of Cantharides.....	2 drams
Cologne water	2 ounces
Imported Bay Rum.....	6 ounces

Mix. Apply to scalp with medicine dropper once daily.

No. 4.

R PILOCARPIN TONIC.

Fluid extract Jaborandi.....	5 drams
Quinine Sulphate	16 grains
Glycerine	3 drams
Eau de Cologne.....	1½ ounces
Distilled water	6 ounces

Mix. Rub thoroughly into scalp four times a week.

NOTE.—Jaborandi is another name for Pilocarpin.

No. 5.

℞

PILOCARPIN TONIC.

Pilocarpin Muriate	18 grains
Spirits Odorati	4 drams
Absolute Alcohol	4 ounces
Rose water	4 ounces

Mix. Rub thoroughly into scalp with finger tips night and morning.

Cantharides.

Cantharides is widely used in the preparation of hair tonics on account of its stimulating effects upon the scalp. It increases the blood supply, thus augmenting the amount of nourishment which is carried to the hair roots.

No. 1.

℞

CANTHARIDES TONIC OINTMENT.

Tincture Cantharides	1 dram
White Vaseline	2 ounces
Oil of Rosemary.....	20 drops
Oil of Lavender.....	20 drops

Mix. Rub thoroughly into scalp night and morning.

No. 2.

℞

CANTHARIDES LIQUID TONIC.

Tincture of Cantharides.....	2 drams
Glycerine	4 drams
Rose water	4 ounces
Tincture of Musk.....	5 drops

Mix. Rub thoroughly into scalp once daily.

No. 3.

CANTHARIDES AMMONIA TONIC.

℞

Tincture of Cantharides.....	5 drams
Water of Ammonia.....	2 drams
Oil of Rosemary.....	30 drops
Cologne water, enough to make.....	6 ounces

Mix. Apply to scalp once daily.

This preparation is the equal or superior of any sold on the market; and at one-half the cost.

Quinine Hair Tonics.

In the realm of hair tonics Quinine enjoys an enviable reputation. When applied it has no effect upon the healthy skin; but it possesses germicidal properties which make it valuable, as recent scientific research has demonstrated, in the treatment of various scalp diseases, such as dandruff, which effect hair vitality.

No. 1.

QUININE — CANTHARIDES HAIR TONIC.

℞

Quinine Sulphate	15 grains
Imported Bay Rum.....	2 drams
Glycerine	2 drams
Tincture of Cantharides.....	1 dram
Tincture of Cinchona.....	2 drams
Water	9 ounces

Mix, dissolve and filter.

Apply to scalp once daily.

No. 2.

QUININE — BAY RUM HAIR TONIC.

℞

Quinine Sulphate	16	grains
Glycerine	5	drams
Cologne water	13	drams
Imported Bay Rum.....	13	drams
Tincture Cinchona	1½	drams
Rose water	8	ounces

Mix, dissolve and filter.

Apply to scalp once daily.

No. 3.

QUININE — JABORANDI HAIR TONIC.

℞

Quinine Sulphate	50	grains
Fluid extract of Jaborandi.....	6½	drams
Tincture of Cantharides.....	6½	drams
Glycerine	3	drams
Imported Bay Rum.....	8	ounces

Mix, dissolve and filter.

Dissolve the Quinine in the alcoholic preparation and add other ingredients. Let stand for a few hours and then filter. Color and perfume to suit.

Apply to scalp once daily.

Hair Tonics Containing Oil.

The combination of oil with medicinal preparations which have the property of stimulating hair growth and vitality, is especially valuable in treating those cases where the scalp is harsh and dry and the hair is brittle, due to a deficiency of natural oil. On account of its solu-

bility in alcohol and its local effect upon the hair, castor oil is the most satisfactory of all oils used for this purpose.

No. 1.

OIL AND CANTHARIDES HAIR TONIC.

℞

Castor oil	4 ounces
Alcohol	9 ounces
Tincture of Cantharides.....	$\frac{1}{2}$ dram
Oil of Bergamot.....	2 drops
Oil of Rose Geranium.....	5 drops
Red Saunders	1 drop

Mix. Macerate for several days with occasional stirring and strain.

Rub thoroughly into the roots of the hair every one or two days.

No. 2.

OIL AND QUININE HAIR TONIC.

℞

Castor oil	4 drams
Tincture of Cantharides.....	3 drams
Quinine Sulphate	18 grains
Oil of Bay.....	8 drops
Alcohol	7 ounces

Mix.

Dissolve Quinine in alcohol, add the other ingredients, and stir until solution has occurred; then filter. A beautiful yellow color may be imparted by the addition of Tincture of Curcuma.

Apply to scalp every one or two days.

No. 3.

OIL — BAY RUM HAIR TONIC.

R

Castor oil	1 ounce
French Brandy	2 ounces
Imported Bay Rum.....	2 ounces
Oil of Rose Geranium.....	30 drops

Mix. Rub thoroughly into roots of hair every one or two days.

No. 4.

OIL TONIC TO CHECK FALLING HAIR. A SIMPLE AND EFFICIENT TONIC.

R

Carbonate of Ammonia.....	2 drams
Oil of Bergamot.....	12 drops
Sweet oil	8 ounces
Mix.	

Reduce carbonate of ammonia to impalpable powder. Shake well before using.

To check falling hair apply to scalp daily.

Resorcin Hair Tonics.

Resorcin having marked stimulating and antiseptic properties, has been much employed as a hair grower and scalp tonic, especially by the French specialists. In recent years it has acquired wide popularity in America, markedly for the treatment of Dandruff and Seborrhoea of the scalp. On account of its property of staining white hair, preparations containing Resorcin should not be used upon light blonde or white hair.

No. 1.

RESORCIN — SALICYLIC HAIR TONIC.

℞

Resorcin	1 dram
Salicylic Acid	12 grains
Tincture of Cantharides.....	2 drams
Glycerine	4 drams
Dilute Alcohol	8 ounces
Oil of Rose Geranium.....	3 drops

Mix. Apply daily to scalp with medicine dropper.

No. 2.

RESORCIN — CANTHARIDES HAIR TONIC.

℞

Resorcin	50 grains
Glycerine	1½ drams
Tincture of Cantharides.....	2 drams
Compound tinct. Lavender.....	2 drams
Imported Bay Rum.....	8 ounces

Mix. Apply daily to scalp with medicine dropper.

No. 3.

RESORCIN — WITCH HAZEL HAIR TONIC.

℞

Resorcin	1½ drams
Water	1 ounce
Witch Hazel	2 ounces
Alcohol	2 ounces

Mix. Apply daily to scalp with medicine dropper.

This preparation is especially effective when the hair is oily.

No. 4.

RESORCIN — QUININE HAIR TONIC.

℞

Resorcin	1 dram
Quinine Sulphate	20 grains
Castor oil	1 dram
Cologne water	4 ounces

Mix. Apply to scalp daily with medicine dropper.

Sage Hair Tonics.

Sage has been used as one of the principal ingredients of hair tonics from the time of our fore-fathers. Long experience has proved its worth as a scalp stimulant and hair tonic. In combination with various other ingredients to enhance its action, as found in the following prescriptions, most excellent results can be expected from its use. Sage also has the property of slightly darkening the color of the hair.

No. 1.

SAGE — NEROLI TONIC.

℞

Fluid extract of Sage.....	4	drams
Tincture of Green Soap.....	4	drams
Tincture of Red Cinchona.....	2	drams
Tincture of Cantharides.....	30	drops
Glycerine	1½	drams
Chloral hydrate	1	dram
Cologne water	1	ounce
Oil of Bergamot.....	15	drops
Oil of Sweet Orange.....	15	drops
Oil of Neroli.....	3	drops
Alcohol	2	drams
California Brandy, enough to make.....	8	ounces

Dissolve the Chloral hydrate in the Cologne water.

Dissolve the oils in the alcohol, add this to the Cologne water solution, and mix all ingredients. Let stand for a week and filter through Calcium Phosphate.

Apply to scalp once daily.

No. 2.

SAGE — BERGAMOT TONIC.

R

Fluid extract of Sage.....	4	drams
Tincture of Green Soap.....	1½	drams
Tincture of Cantharides.....	1	dram
Glycerine	1½	drams
Menthol	4	grains
Oil of Sweet Orange.....	20	drops
Bay Rum	1	ounce
Oil of Bergamot.....	15	drops
Alcohol	2	ounces
Water, enough to make.....	8	ounces

Mix. Apply to scalp once daily.

Dissolve the oils and menthol in the alcohol, mix the fluid extract of sage with the glycerine, tincture of cantharides and bay rum. Mix the green soap with 2 ounces of water, adding it gradually with constant stirring; then mix all the solutions with water to make 8 ounces. Let stand for twenty-four hours and filter.

Ammonia Hair Tonics.

Ammonia water, singly or in combination, is a cleanly and efficient scalp stimulant and is employed with much satisfaction by many hair specialists. The following formula is of especial use in loss of hair so frequently seen in women, and we recommend it as being especially

useful in the treatment of loss of hair when the hair and scalp are abnormally oily and greasy.

No. 1.

FORMULA OF A FRENCH SPECIALIST.

AMMONIA — PILOCARPIN HAIR TONIC.

℞

Liquor Ammonia 10%.....	1 dram
To which should be added	
Alcohol	8 ounces
Spirits of Lavender.....	6 drams
Spirits of Ether.....	6 drams
Pilocarpin Muriate	4 grains
Water enough to dissolve.	

Mix and rub thoroughly into scalp with tips of fingers at bed hour.

No. 2.

AMMONIA — CAPSICUM HAIR TONIC.

℞

Aromatic Spirits of Ammonia.....	$\frac{1}{2}$ dram
Tincture of Capsicum.....	1 dram
Tincture of Cantharides.....	40 drops
Resorcin	$\frac{1}{2}$ dram
Quinine Sulphate	3 grains
Bay Rum	2 ounces
Alcohol	3 ounces
Water, enough to make.....	8 ounces
Perfume	to suit

Mix the Bay Rum and alcohol, and dissolve in the quinine and resorcin; then add the other ingredients, allow to stand for two days, and filter.

Apply to scalp at bed hour.

No. 3.

AMMONIA — CHLOROFORM HAIR TONIC.

R

Chloroform	1 ounce
Stronger water of Ammonia.....	1 ounce
Glycerine	6 drams
Alcohol	5 ounces

Mix.

Brush scalp thoroughly and apply two or three times a week. If scalp irritation results, dilute preparation with water. This preparation is a superior hair tonic

No. 4.

AMMONIA — CANTHARIDES HAIR TONIC.

R

Liquor Ammonia 10%.....	5 drams
Tincture of Cantharides.....	3 drams
Eau de Cologne.....	1 ounce
Water, enough to make.....	8 ounces

Mix. Apply night and morning.

This tonic is especially useful in checking falling hair.

Mercury Hair Tonics.

Mercury is one of the most efficient antiseptics used in medicine. For this reason it is widely used as a tonic application in treating scalp diseases of a parasitic or a fungoid nature. It may be used in the form of an ointment or as a liquid preparation. It is especially valuable when combined with resorcin.

No. 1.

MERCURY-ALCOHOL TONIC.

℞

Iodide of Mercury.....	2 grains
Bichloride of Mercury.....	5 grains
Alcohol	10 drams
Water	8 ounces

Mix. Wash the scalp with soap and water and rub lotion into scalp two or three times a week.

No. 2.

MERCURY-GLYCERINE TONIC.

℞

Bichloride of Mercury.....	6 grains
Water	5 ounces
Glycerine	1 ounce
Spirits of Cologne.....	1½ ounces

Mix. Rub thoroughly into scalp once daily.

No. 3.

MERCURY-RESORCIN TONIC.

℞

Bichloride of Mercury.....	2 grains
Resorcin	1½ drams
Glycerine	1½ drams
Alcohol	8 ounces

Mix. Apply to scalp night and morning with medicine dropper.

Capsicum Hair Tonics.

Capsicum is employed as a hair tonic on account of its antiseptic properties and for its power of stimulating the blood supply of the scalp. It is much used alone or in combination, to prevent abnormal shedding of the hair.

No. 1.

CAPSICUM — CANTHARIDES HAIR TONIC.

℞

Tincture of Capsicum.....	20 drops
Tincture of Cantharides.....	1 dram
Glycerine	2 drams
Cologne water, enough to make.....	6 ounces

Mix. Apply daily to scalp.

This preparation will be found effective in preventing falling of the hair.

No. 2.

CAPSICUM — QUININE HAIR TONIC.

℞

Tincture of Capsicum.....	1 dram
Tincture of Cantharides.....	$\frac{1}{2}$ dram
Glycerine	2 drams
Quinine Sulphate	12 grains
Rose water, enough to make.....	8 ounces

Mix and filter. Apply to scalp once daily.

No. 3.

CAPSICUM — TANNIN HAIR TONIC.

℞

Oil of Capsicum.....	16 drops
Glycerine	6 drams
Tincture of Cantharides.....	2 drams
Tannin	2 drams
Rose Water	6 ounces

Mix. Rub well into scalp twice daily.

No. 4.

CAPSICUM — OIL HAIR TONIC.

℞

Tincture of Capsicum.....	4 drams
Tincture of Cantharides.....	2 drams
Stronger solution of Ammonia.....	4 drams
Castor oil	1 ounce
Spirits of Rosemary, enough to make.....	8 ounces

Mix. Apply to scalp once daily.

Formicarium Hair Tonic.

Formicarium is employed as a hair tonic on account of its stimulating properties, and has been highly praised as a hair tonic by some few who profess special knowledge of its properties. This preparation is much used in Germany.

No. 1.

℞

Spirits Formicarium	1 ounce
Resorcin	1 dram
Bichloride of Mercury.....	2 grains
Castor oil	2 drams
Alcohol, enough to make.....	8 ounces

Mix. Apply to scalp at bed hour.

Chloral Hydrate Hair Tonic.

Chloral Hydrate is widely used on account of its stimulating effect as well as its antiseptic action upon the scalp; and is much employed to stop annoying irritation or itching, for which purpose it will be found most excellent.

No. 1.

℞ CHLORAL HYDRATE — MERCURY HAIR TONIC.

Chloral hydrate	1 dram
Bichloride of Mercury.....	1 grain
Resorcine	30 grains
Castor oil	20 drops
Alcohol, enough to make.....	4 ounces

Mix. Apply to scalp daily.

No. 2.

℞ CHLORAL HYDRATE — RESORCIN HAIR TONIC.

Chloral hydrate	$\frac{1}{2}$ dram
Resorcine	30 grains
Castor oil	15 drops
Alcohol, enough to make.....	4 ounces

Mix. Apply to scalp night and morning.

Sulphur Hair Tonics.

By many authorities sulphur is given preference over all other tonic agents for application to the scalp. On account of its insolubility it cannot be used in liquid form and must be applied to the scalp as an ointment. This is the great objection to its use. It is especially indicated as a tonic ointment—used either alone or in combination with other drugs—when the loss of scalp and hair health is due to parasitic disease.

No. 1.

℞ SULPHUR OINTMENT.

Precipitated Sulphur	1 dram
B-Naphthol	$\frac{1}{2}$ dram
Vaseline, enough to make.....	1 ounce

Mix. Rub into scalp with finger tips at bed hour.

No. 2.

SULPHUR — RESORCIN OINTMENT.

℞

Precipitated Sulphur	2½	drams
Resorcin	½	dram
Vaseline, enough to make.....	3	ounces

Mix. Apply to scalp at bed hour.

No. 3.

SULPHUR HAIR LOTION.

℞

Precipitated Sulphur	2½	drams
Alcohol	3	drams
Distilled water	4	ounces
Rose water	4	ounces

Mix. Apply to scalp at night and wipe off in the morning. Shake well.

No. 4.

SULPHUR — SALICYLIC HAIR TONIC.

℞

Precipitated Sulphur	2	drams
Salicylic Acid	30	grains
Resorcin	1	ounce
B-Naphthol	1	ounce
Alcohol	3	drams
Distilled water	4	ounces
Rose water	4	ounces

Mix. Apply at bed hour. Shake well.

Tannic Acid Hair Tonics.

Tannic acid is the active principal of the vegetable astringents, and when applied to a part causes contraction of the tissues. It is valuable as a tonic for treating the loss of hair which occurs as the result of excessive sweating due to too great secretions of the scalp glands, with a resultant moist scalp and wet hair.

No. 1.

℞ TANNIC ACID — BALSAM TONIC.

Tannic Acid	90 grains
Benzoic Acid	120 grains
Oleo-balsamic mixture	3 drams
Castor oil	2 ounces
Alcohol	8 ounces

Mix, filter and apply to scalp daily.

No. 2.

℞ TANNIN — MYRRH TONIC.

Tannin	1 dram
Tincture of Myrrh.....	1 ounce
Glycerine	4 ounces

Mix. Rub into scalp three times a week.

No. 3.

℞ TANNIC ACID — RESORCIN TONIC.

Tannic Acid	20 grains
Chloral hydrate	80 grains
Resorcin	60 grains
Tincture of Benzoin.....	40 grains
Castor oil	2 drams
Spirits of Rosemary, enough to make.....	6 ounces

Mix. Apply to scalp at bed hour.

Arnica Hair Tonic.

Tincture of arnica has been used as a scalp lotion. We cannot see that it offers any particular advantage over other hair tonics, but for those who desire to use Arnica the following tonic will be found one of the best:

℞	No. 1.	
	Tincture of Arnica.....	12 drams
	Glycerine	4 drams
	Spirit	10 drams
	Water, enough to make.....	6 ounces

Mix. Apply to scalp daily.

Tar Hair Tonic.

Tar was formerly thought to possess the property of promoting hair growth. Modern research, however, shows that it possesses no especial advantage over other tonics, while it possesses objections which cannot be overcome. It is disagreeable to use, and it is impossible to permanently disguise its unpleasant odor by the addition of perfume. Its chief field of usefulness is found in treating a scalp in which the loss of hair is thought to be due to an excessive secretion of the sweat glands. The Oil of Cade or Oleum Rusci is the most effective means of applying it. An eminent French authority advocates its use in a combination somewhat resembling the following:

℞	No. 1.	
	Oil of Cade	2½ ounces
	Decoction of Soap Bark.....	1 ounce
	Yolk of Egg.....	1
	Distilled water to make.....	8 ounces

Mix the cade and soap bark, then stir in the egg and water. Add three tablespoonfuls to a pint of water and apply as a shampoo one or two times a week.

No. 2.

℞

TAR TONIC — OINTMENT.

Oil of Cade.....	2½ drams
Adeps Lanae	2½ drams
Vaseline	2 drams
Yellow Oxide of Mercury.....	15 grains

Mix. Apply to scalp at night. Wear head covering and wash preparation off with soap and water in the morning.

Crude Petroleum Hair Tonic.

We cannot leave the subject of hair tonics without a few comments on the use of crude petroleum. This preparation has enjoyed as wide a reputation for promoting the hair growth as any of the simple homely preparations that have been used in times past.

While crude petroleum is beneficial in treating some conditions of the hair and scalp that are due to abnormal dryness, careful investigation has shown that its virtues have been very much exaggerated. It has not a wide range of usefulness, is not especially effective, and it is disagreeable to apply. There are many other medicinal agents which have more or less of a reputation in the treatment of falling hair which may or may not be due to diseased conditions of the scalp. While it is impossible to touch on all of the remedies advocated in the past, a bare mention of a few of them can be made.

Croton oil has been used with some slight success, but its use is not recommended on account of its destructive effects on the skin.

Turpentine is sometimes used, but usually in combination.

Carbolic acid has some advocates, but it should never be used stronger than a 2 per cent solution, in which strength it is useless as a scalp antiseptic.

Tricresol, while it possesses some slight antiseptic value, if used in sufficient strength to be of benefit causes too great an inflammation of the scalp.

Chrysarobin is used but rarely, and generally in those cases of suspected parasitic disease of the scalp.

B-Naphthol is used in combination with other medicinal agents for its antiseptic effects.

Grain Alcohol may be used alone or diluted with water when the hair and scalp contain an excessive amount of oil.

Balsam of Peru has antiseptic properties and serves as a tonic and stimulant to the scalp circulation.

No. 1.

R BALSAM OF PERU HAIR TONIC.	
Balsam of Peru.....	72 grains
Oil of Bergamot.....	18 drops
Alcohol	45 drams
Glycerine	3 drams

Mix. Apply to scalp daily.

CHAPTER XIII.

HAIR OILS—BRILLANTINES—POMADES.

Hair Oils.

An efficient hair oil has a wide range of usefulness in the field of hygiene of the hair and scalp. The use of a simple oil is frequently indicated to supply a bland, non-irritating oil after the natural oil has been removed from the hair and scalp by the cleansing action of the shampoo; and it is invaluable in the treatment of cases of scalp inflammations accompanied by dry and faded conditions of the hair with cracked and split ends. After the application of hair dyes its use is essential to render the hair smooth, soft, glossy and flexible.

The preparation of fine hair oil is a simple operation. A pure, bland non-drying oil should be selected as a base, to which any desired medicinal agents and perfume may be added. The oils most suitable to serve as a base are pure olive oil, oil of mustard seed, oil of cotton seed, refined lard oil, or pure paraffine oil. If desired the hair oil may be colored yellow by digesting with curcuma. Annatto will produce an orange color. The addition of alkanet root in the proportion of one ounce to the pint of oil, will produce a beautiful red color. The proper method of applying hair oil has already been described. To secure the best results that method should be closely followed.

No. 1.

The following preparation will prove a very efficient and satisfactory hair oil for use upon a dry scalp and

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dry hair. The addition of alkanet root will produce a beautiful red color.

℞

Castor oil	1 ounce
Alcohol	2 ounces
Color and perfume.....	to suit

Mix. Rub thoroughly into the scalp, after which the hair should be brushed.

Castor oil has the great advantage of being soluble in alcohol, and this preparation can be made thinner or thicker as desired.

No. 2.

This prescription makes a very clear, beautiful hair oil.

℞

Pure Castor oil.....	4 drams
Cologne spirit	3½ ounces
Dissolve the oil in spirit.	

Rub thoroughly into the scalp, after which the hair should be thoroughly brushed.

No. 3.

The following is a very good preparation for increasing the growth of the hair when the scalp is dry:

℞

Sweet oil	4 ounces
Oil of Lavender.....	1 dram

Mix. Rub into scalp night and morning, and brush the hair frequently.

No. 4.

This hair oil is very popular, and is much used in treating thin and falling hair.

℞

Olive Oil	4 ounces
Camphor	2 drams
Dissolve the camphor in the oil by means of gentle heat, and perfume with	
Oil of Thyme	1½ drams

Rub into scalp at bed hour—and thoroughly brush the hair.

No. 5.

HAIR OIL FOR WHITE HAIR.

℞

Oil of Cottonseed.....	4 ounces
Oil of Red Cedar.....	1 drop
Oil of Geranium.....	3 drops
Oil of Cloves.....	3 drops
Oil of Citronella.....	1 drop
Oil of Lemon Grass.....	1 drop

Mix. Rub thoroughly into scalp. Brush the hair frequently.

No. 6.

The following preparation is a very stimulating hair oil. Its use is indicated when a powerful effect is desired.

℞

Oil of Almonds.....	2 ounces
Oil of Nutmeg.....	½ dram
Oil of Mace expressed.....	½ dram

Mix. Apply as needed to the scalp and brush the hair thoroughly.

No. 7.

℞ NURSERY HAIR OIL.

Benzoin	1 dram
Alkannin	1 dram
Oil of Staves Acre.....	2 drams
Almond Oil	5 ounces
Macerate for a week with frequent shaking.	
Filter and add	
Oil of Ylang Ylang.....	4 drops
Oil of Neroli.....	3 drops

Apply as needed.

No. 8.

℞ NURSERY HAIR OIL.

Oil of Staves Acre.....	4 drams
Olive oil	2 ounces

Mix. This makes a most excellent oil for use in the nursery.

No. 9.

Burdock hair oils have been used extensively with seeming satisfaction, but the following will be found to be an improvement over the Burdock Root hair oil.

℞	
Fatty Oil of Mustard.....	4 ounces
Lemon Oil	20 drops
Oil of Bergamot.....	10 drops
Oil of Cassia.....	4 drops

Mix. Apply to scalp as needed, followed by a thorough brushing of the hair.

No. 10.

R HAIR OIL FOR BLONDE HAIR.

Oil of Cottonseed (yellow).....	3½ ounces
Oil of Bergamot.....	2 drams
Oil of Cassia.....	1½ drams
Oil of Cloves.....	1 dram
Oil of Thyme (white).....	15 drops

Mix. Color with Annatto, if desired, and apply as needed.

Macassar Hair Oil.

In the realm of hair oil a macassar oil enjoys an enviable reputation. We submit one of the best macassar hair oil formulas. It contains benzoated oil, which is a very desirable addition and its perfume is of the best. While this is an expensive preparation it will be found worth all that is paid for it.

R No. 11.

Benzoated Oil	3 ounces
Alkanet Root	1½ drams
Cassia Buds	1½ drams
Oil of Cinnamon.....	10 drops
Oil of Rose Geranium.....	4 drops
Oil of Bergamot.....	2 drops
Oil of Bitter Almonds.....	2 drops

Digest the alkanet and cassia buds in the oil for an hour on a water bath, filter, and add the perfume.

DIRECTIONS: Rub thoroughly into the scalp with the tips of fingers. Follow by a thorough brushing of the hair.

Cocoanut Hair Oil.

Pure cocoanut oil has enjoyed great popularity as an efficient oil dressing for the hair and scalp. It should be used alone, or in combination with some non-drying fatty oil, of which Olive oil or Castor oil are good examples. Castor oil has the advantage of being soluble in alcohol. All genuine cocoanut oils however, deposit on cooling, much of the cocoanut oil which they contain. An analysis of several of the cocoanut oils or cocoanut oil shampoos found on sale show that they contain but little cocoanut oil, some being merely green soap tinctures.

The following preparation will be found practically free from the objectionable precipitate usually found, and when properly prepared is one of the best cocoanut oil preparations it is possible to obtain.

℞

No. 12.

Cocoanut oil	2 drams
Castor oil	6 drams
Melt together, and while still warm add slowly, with constant stirring	
Alcohol	2 ounces
Perfume with Oil of Rose Geranium.....	6 drops

DIRECTIONS FOR USE: Rub thoroughly into the scalp with finger tips, after which the hair should be vigorously brushed.

NOTE.—Any other perfume may be substituted for the Rose Geranium, if desired.

BRILLANTINES.

Brillantines are that class of preparations intended for application to the hair of the head and face in order to restore all the brilliancy that natural hair should

possess. Its use is indicated on faded hair or hair that is abnormally dry, in order to bestow a natural gloss and render it soft and flexible. Just a few drops brushed into the hair with a small special brush is the proper way of applying it. The results obtained are beautiful. Too much perfume in brilliantine is not desirable. Just sufficient to give a faint, elusive odor is best.

No. 1.

This brilliantine will give satisfaction in every sense. It is agreeable to use and beneficial to the hair.

℞

Sweet Almond Oil.....	2 ounces
Alcohol	1 ounce
Glycerine	3 drams
Oil of Rose Geranium.....	4 drops

Mix. Shake the bottle.

No. 2.

This brilliantine will not separate into two layers upon standing as will a brilliantine made from any fixed oil other than Castor oil. This preparation is everything that a good brilliantine should be.

℞

Castor oil	6 drams
Alcohol	10 drams
Oil of Rose Geranium.....	3 drops
Oil of Neroli.....	3 drops

Mix and color with tincture of saffron or curcuma if desired.

Apply as directed above.

"The Huiles Antiques" imported from France make superior brilliantines when mixed with an equal proportion of alcohol.

HAIR POMADES.

At one time hair pomades were very extensively employed. In recent years their use is considered not only bad form, but it is now recognized that their constant application will result in harm to the hair and scalp. They attract and retain dirt, and on account of the fat which they contain they frequently decompose, with a resultant characteristically disagreeable odor. This decomposition will create an irritation of the scalp, and disease is invited rather than combated. At the best they supply nothing to the hair and scalp which cannot be secured through other and more elegant agents.

For the above reasons we have not included formulae for hair pomades, and unless there is some particular indication to exhibit them, we do not recommend their use.

CHAPTER XIV.

HYPERTRICHOSIS—ABNORMAL GROWTH OF HAIR.

Hy-per-trich-o-sis — *Superfluous hair; hairiness.*

Hypertrichosis is the name given to that condition where the growth of hair is greatly in excess of the amount of hair usually found in that location; or to a growth of hair, even though slight in amount, found upon those regions that are normally devoid of hair. Superfluous hair may be congenital or acquired, and is due to the fact that the fetal hair is not shed as it should be, but gradually grows thicker and longer, taking the place of the permanent growth of hair.

Types illustrating this abnormal growth of hair have been met with in all ages and in all countries. Jo-Jo, the Russian dog-faced boy, whose entire face was covered with thick long hair, may be cited as a comparative modern example. Such instances of excessive hair growth are not of interest to us, but rather that form of superfluous hair found upon the face of women, which usually appears upon the cheeks, lips and chin, and is first noticed between the fifteenth and twenty-fifth years, the growth becoming darker in color and coarser in texture as time passes. This growth in the young consists of fine hairs interspersed with coarse, bristly ones, and differs from that found in older women, when the superfluous hair appears upon the face as a result of the menstrual change, and is composed only of the coarse, heavy variety. A growth of hair on the face also occurs as a result of surgical operations, or from the too free use of fatty, oily substances upon the skin of the face. Blondes are apparently

more free than brunettes from the excessive hair growth on the face, but this may be explained by the fact that the hair of blondes is usually of finer texture and of a lighter color, and consequently is more difficult to see.

Depilatories, Or Hair Removers.

Depilatories are preparations used for the removal of superfluous hair. The safest preparation is usually a Sulfid or the Sulfhydrate of one of the alkalies or alkaline earths. The older preparations were made with caustic alkalies and were not so safe. The objection to these preparations is the disagreeable odor which they possess; the sulfid of strontium being the least objectionable in this way. These preparations are usually in powder form, and are made into a thin paste with water. After they have been applied in a thin layer to the skin and allowed to remain for a few minutes, they should be scraped off with a blunt instrument, the hair having been so softened that its removal is painless. These preparations should not be allowed to remain on the skin too long as they may cause an eczema, or even sores. To avoid bad after effects, cleanse the skin thoroughly and apply a bland oil. If long hair is to be removed it should be clipped short before the preparation is applied. Depilatories should be kept in colored bottles in the dark, should be kept tightly stoppered, and should be freshly prepared as their efficiency is impaired with age.

Treatment of Hypertrichosis.

If the hair is very fine and downy, the frequent application of Hydrogen Peroxide will bleach the hairs so that they are hardly noticeable.

Should it be desirable to remove the hair, this can be accomplished by the application of one of the following

prescriptions. Depilatories are used to remove the hair not only from the face, but also from the arm pits if the growth of axillary hair is so abundant as to be unsightly when evening gowns are worn.

No. 1.

CALCIUM SULFID DEPILATORY.

℞

Calcium Sulfid	1 ounce
Zinc Oxide	$\frac{1}{2}$ ounce
Starch	$\frac{1}{2}$ ounce

Mix and make a fine powder; add Oil of Peppermint or Lemon sufficient to disguise the odor.

DIRECTIONS: Make into a paste with water and apply lightly to the skin. Leave for ten minutes and remove with water.

Calcium Sulfid may be prepared by adding a mixture of ten parts of finely powdered lime to nine parts of sulphur. Heat in a crucible below red heat and mix.

No. 2.

℞

Barium Sulphide	4 drams
Starch	4 drams
Zinc Oxide	2 drams

Mix a small amount with a few drops of water to make a paste.

Apply to hairy part, leave on two or three minutes, and scrape or wash off. A clean, smooth surface will be left, after which a bland oil should be applied.

No. 3.

The following preparation is said to be much used in the East in removing hair from the armpits.

℞

Orpiment	$\frac{1}{2}$ dram
Lime	4 drams
Wheat Flour	2 scruples
Hot water, enough to make a paste.	

DIRECTIONS: Apply with a wooden spatula to the thickness of a ten cent piece, and allow to remain until a slight irritation of the skin is felt. Scrape off with a blunt edged knife and wash the skin with warm water, after which rice or starch powder should be dusted on.

On account of the Arsenic contained, it should be used with caution.

No. 4.

DEPILATORY CREAM.

The following formula for depilatory cream is largely used in some prominent Eastern hospitals for the removal of hair from the face or armpits or from the skin of the body, previous to operations.

℞

Barium Sulphide	3 parts
Starch	1 part
Mix.	

DIRECTIONS: Trim off the excess of hair with the scissors from the part to be denuded. The mixed powder is to be made into a paste with water, and applied in a moderately thick layer to the parts. Examine from time to time and when it is seen that the hair can be removed, the mass should be washed off, and vaseline or cold cream applied.

The use of depilatories is sometimes attended by more or less irritation to the skin, especially in the hands of the careless or uninformed; hence care should be observed in their use.

CHAPTER XV.

THE EYEBROWS.

A proper conception of the cosmetic possibilities of the brows and lashes, with a fraction of the care that is lavished upon things of far less importance, will bring the most substantial and surprising reward. We confess with regret that modern medical care and cultivation of the brows and lashes has been entirely neglected even by the truly scientific specialist who, while advancing a few theories for the treatment of or for the prevention of disease, has failed to present even one helpful hint for taking advantage of the great promises, in a cosmetic sense, which their proper cultivation would extend.

One cannot deny the great value of the teeth as an asset of physical beauty; yet reflection will show that the ideal, sharply defined, luxuriant eyebrows and long, curling eyelashes, occupy the premier position as an aid to physical beauty; for their value lies not alone in their own intrinsic comeliness, but also in producing that symmetry of feature which could not be created by any other means.

The Eyebrows. The great cosmetic value of the eyebrow as an agent for softening hard facial features, and by contrast enhancing the beauty of the skin, is also evidenced in creating a proportionate cosmetic value for the nose, brows, and forehead, and accentuating the contour of the face. This fact is unrecognized or unappreciated by the great majority of women, and is taken as a matter of course by practically all men, who accept the presence of this facial adornment in the same spirit as they do

their nose and ears — God-given and practically unchangeable.

The Perfect Eyebrow is rather far away from the eye, is of uniform thickness throughout its entire extent, and should be so proportioned to the size of the face as to create an impression of a slender arched line. Too thin brows of a light color in a large face do not sufficiently emphasize the features, while thick, black eyebrows on a delicate face with small features give a sinister expression. *The color of the eyebrows* should be slightly darker than the hair, but intensely black eyebrows which do not harmonize with the color of the eyes and hair are unbecoming.

Anatomy of the Eyebrows.

The eyebrows are two arched eminences of skin and underlying tissue which surmount the upper circumference of the orbits of the eyes. They support a growth of short, stiff hairs called Cilia which are implanted at an angle in the skin, with the free ends directed outward. The hair follicles in the brow are not implanted so obliquely in the skin, and the papillae are proportionately shorter and thicker than are those of the scalp; while the sebaceous glands are larger and more fully developed, and the Erector Pili muscles which serve to elevate the hair of the latter are not found in the eyebrows. Movements of the eyebrows are dependent upon the action of the underlying Occipito-Frontalis and Corrugator Supercilii muscles with which the integument of the brow is closely connected. The length of the hair varies from one-third to one inch, and the loss and regeneration of the hair of the eyebrows proceeds much more rapidly than the hairs of the head. Between the thirty-fifth and fortieth years there occurs, frequently in men and some-

times in women, an over growth in the amount and a change in the direction of some hairs of the brows, the so-called "wild hairs", which render them shaggy and bushy.

Each brow begins at, or just above the base of the nose in the superior and inner angle of the orbit of the eye, and is continued as a fringe around the upper margin of the orbit, terminating at its upper and outer side. The quantity of hair in the brows varies greatly in abundance, length and color, in different individuals, and usually harmonizes in shade with the hair of the scalp and lashes. In many instances when the growth of hair upon the scalp and over the body is especially abundant, the eyebrows are heavy and connected by an isthmus of hair growth upon or slightly above the root of the nose. The form of the eyebrow is influenced greatly by race, though apparently unaffected by climate. In Europeans the eyebrows usually present a more or less curved line, conforming closely to the curve of the orbit; while in the Mongolian races the brow is arranged in a straighter line, with the outer extremity more elevated and lacking the fuller downward curve usually found among the Caucasians.

Diseases of the Brows.

The same systemic diseases which impair the vitality of the hair of the scalp also affect the hair of the brows; so that we find in them a loss of hair following certain systemic diseases such as Typhoid Fever, or constitutional diseases, of which Syphilis is a good example. Pitiriasis or Dandruff is not so prevalent in the brows as in the scalp; and Seborrhoea, which the older writers confused with dandruff, is frequently found. The treatment of these conditions is practically the same as that for treating similar conditions of the scalp.

Agenesis Piliaris is that form of Alopecia, or loss of hair, which affects the eyebrows. It causes an imperfect development of the outer ends of the eyebrows, and usually occurs before the age of puberty. The treatment to be followed is essentially the same as that given for the cure of Alopecia Areata.

Ulerythema Ophryogenes — *scarred eyebrows* — the result of disease. There are two forms — a mild and a severe.

This disease is usually confined to the eyebrows, the skin becoming thickened and red, and followed by a more or less complete plugging up of the hair follicles. It begins in infancy and lasts through life if proper treatment is not adopted to correct it. It is said to occur most often in blondes. In the mild form the outer ends of the brows are affected, while in the severe type the entire brow, and sometimes the hair of the face is involved. In the early stages it results in the formation of fine scars which later may become so numerous as to cause entire loss of hair. It is best treated by Resorcin lotions, for which formulae have been given.

Defects of the Brows.

The defects of the brows are: *First, Defects in Direction of the Hairs*, the result of irregular or faulty growth, due to an improper position of the follicle, which causes the hair to project at an angle either above or below the brow line, thus creating an unkempt appearance; or to hair "whorls" or "cowlick of the brow" which is usually located at the inner angle where the hair is thickest.

Second, Defect in the Quantity of the Hair. The inner angle of the brow usually contains a normal quantity of hair, the deficiency being manifested at, or slightly to

the inner side of, the middle of the brow; the amount of hair gradually decreasing toward the outer end.

Third, Defects in the Texture of the Hair. Usually accompanying the defect in the quantity of the hair is found a corresponding decrease in the texture, the hair shaft being so fine as to partake of the quality of Lanugo or downy hair.

Fourth, Defects in the Color of the Eyebrows. The color of the eyebrows should be a shade darker than that of the hair of the scalp. The most common defect of coloring is that lighter shade which is a usual accompaniment of the defects in the quantity and texture of the hair.

Treatment.

The treatment for correcting the defects in the direction of hair growth can be summed up in the one word *perseverance*. Since the hair follicle from which the hair shaft projects is placed in the eyebrow at an angle, and is responsible for the abnormal position of the hair, means to overcome this faulty position must be pursued. This is best accomplished by frequently stroking the hair in such a manner that the improper angle of the follicle may be corrected, and the hair whether arranged in the form of a "cowlick" or projecting outward from the body of the brow, can be trained to grow in the desired direction. It is rarely necessary to remove by plucking the hairs which project in a faulty manner if this process is diligently pursued. Accompanying the stroking process, the application of a hair oil will be found of benefit in maintaining the proper position of the hair.

Defects in the Quantity and Texture of the Hair can be combated by stimulating the circulation in order that a richer supply of blood be brought to the hair papilla; and by the application of stimulating hair tonics

and hair oils which possess positive merit for increasing hair growth. The best means for meeting the first indication is massage, which should be applied in the following manner. With the balls of the fingers resting upon the brow move it, with the underlying tissues, by a rapid vibratory movement in all directions, continuing the treatment until a sense of tingling and warmth is produced. Do not permit of any slipping or sliding motion of the fingers as this may cause undue strain upon the delicate hair root attachments to the papilla. After massage brush the brows with a soft brush. The best tonics for use are those which contain Pilocarpin, examples of which are found under "*Hair Tonics*", since Pilocarpin is one of the few drugs which are known to promote hair growth. It also has the additional properties of slightly darkening the color of the hair. The oils selected should be pure olive oil, sweet almond oil, or white vaseline; or if an ointment is preferred it should be one containing sulphur, formulae for which have been given.

The methods described for correcting defects in the quantity and texture of the brows may be used to correct defects in coloring, since the color deepens as the hair growth becomes more vigorous. Failing to secure by these means the shade desired, recourse must be had to the use of some one of the following harmless preparations which are advocated for staining or dyeing the brows:

Methods of Application.

For applying the dye or stain to the brows two brushes should be provided; one for applying the dye — of a special thin, flat shape, about one-half to one inch in length and containing one or two rows of rather short, stiff bristles. A brush that contains too many bristles will gum up and become difficult to use without soiling the

adjacent skin by accidental contact. If the proper brush is not available, use a child's tooth brush from which all bristles except the two center rows have been clipped off. If the bristles are clipped in this way it can be used with equal facility upon the brows or lashes without soiling the skin through the medium of a reversed brush. The second brush should be of small size for the purpose of removing an excess of the stain or dye after the application. The hair of the eyebrows should be entirely freed from oil, by washing after the manner described under the chapter on the preparation of the hair for the application of hair dye.

Harmless Stain for Eyebrows.

Of the harmless preparations used for tinting the brows, Potassium Permanganate in solution will answer most requirements. Potassium Permanganate crystals readily dissolve in water and when the resulting solution is brought in contact with any organic substance it oxidizes and imparts a brown color. The color appears at once, and according to the quantity of permanganate used all shades from blonde to darkest brown may be produced. While the Permanganate solution affects the bristles of the brush used in making the application, it does not affect the hair of the brows and lashes. Of course, the shade imparted is darker or lighter according to the quantity of Permanganate used in making the solution.

No. 1.

LIGHT BROWN.

R

Potassium Permanganate	1 dram
Distilled water	2 ounces

Mix. Apply with small brush as needed.

No. 2.

℞

BROWN STAIN.

Potassium Permanganate	10 grains
Rose water	4 drams
Aqua Ammonia	8 minims
Water	11 drams
Mix.	

Free the hair from fat or oil as directed and apply the lotion with a small brush. The stain will take effect immediately.

No. 3.

HARMLESS BLACK DYE.

The following preparation has been widely used for dyeing the eyebrows. The dark color produced is due to the presence of carbon in a state of fine division; hence is perfectly harmless.

℞

Gum Arabic	$\frac{1}{2}$ dram
India Ink	50 grains
Rose water	2 ounces

Reduce the ink and gum to a very fine powder and add sufficient of the rose water until a black liquid results, which is entirely free from granules; then add the rest of the rose water.

DIRECTIONS FOR USE: Free the hair from oil by washing, and when dry apply dye with a small brush.

No. 4.

CHESTNUT OR BROWN BISMUTH EYEBROW STAIN.

Bismuth is used in the preparation of stains for the eyebrows on account of its harmless nature. They are slower in action than some stains, and decompose readily

on exposure to the light and air; hence should be kept in well stoppered dark bottles.

℞

Bismuth Subnitrate	$\frac{1}{2}$ dram
Solution of Potassa 10%.	
Citric Acid, of each sufficient.	
Glycerine	6 drams
Orange Flower water, enough to make.....	2 ounces

Mix the bismuth salt and glycerine by trituration, then heat on a water bath and gradually add solution of Potassa until the bismuth is dissolved. Then add Citric Acid until solution is only slightly alkaline, and add sufficient orange flower water to make 2 ounces.

DIRECTIONS: Apply as needed with a new tooth brush and comb.

No. 5.

BLONDE MANGANESE EYEBROW DYE.

℞

Solution A:

Potassium Permanganate	40 grains
Distilled water	2 ounces

Solution B:

Sodium Hyposulphite	40 grains
Distilled water	2 ounces

Wash eyebrows with the soda solution to remove grease, then rinse thoroughly with warm water and dry with a soft towel. Apply Solution A with a clean tooth brush and comb with a clean comb to evenly distribute the solution. In a short time cleanse the hair with clean water and brush with Solution B until color is lightened. If Solution A is used alone the color will be deepened instead of lightened, the depth of the color obtained depending upon the frequency with which the solution is applied.

No. 6.

GOLDEN HAIR SHADE.

Remove grease from eyebrows by washing in the usual manner; dry the hair partially and apply by means of a sponge or soft cloth, *Hydrogen Peroxide*. Brush brows with small brush to evenly distribute the bleach, and expose freely to the air. If a lighter shade is desired repeat the process once daily for several days.

On account of the small proportion of iron which it contains, red hair is but little affected, while black hair is affected the most.

In addition to the formulae given, the formulas for Bismuth dye given under Bismuth Hair Dyes may be used for the brows.

Eyebrow Pencils.

Eyebrow pencils or stick cosmetics are grease paints which contain animal fats in combination with vegetable oils and fats, to which are added some coloring substance; the choice of the latter depending upon the color desired. The preparation is then molded into sticks or a pencil for convenience of application. The heavy grease of which the pencil is composed is not removed by washing, and clogs the mouths of the hair follicles thus impairing the vitality of the hair. They mat the hair together, their use is easily detected upon close observation, and they would emit a foul odor were it not for the perfume they contain. However, for those who prefer a stick or pencil we submit the following formula which is one of the best of its kind.

R

Ceresin	30 grains
Petrolatum	45 grains
Wool fat	45 grains
White wax	60 grains
Olive oil	2 drams
Color	to suit

To prepare, melt the ceresin and white wax together; add the petrolatum and wool fat, melt and add the oil; add a sufficient quantity of powdered talcum to the selected coloring substance to obtain the desired color, and incorporate in the fatty mixture. The coloring substance used, depends upon the shade desired. Lamp black, animal charcoal, umber, sienna, eosin, carmine, and many of the aniline colors are used. The whole is then cast into molds of the desired shape and allowed to harden.

CHAPTER XVI.

THE EYELASHES.

While the brows exert over the features in general a somewhat greater individual influence cosmetically than the lashes, the influence of the latter upon the eyes is proportionately as great, and much more subtile. The beauty of the eye, no matter of what limpid brilliancy, would be lost and would appear hard and cold were it not for the softening influence exerted by thick, curling lashes. The coquettish drooping of the lids, with the soft veiling action of the lashes, would seem horrible and grotesque rather than entrancing were they naked and bare of hair.

One explanation of the total neglect or the improper care to which the lashes are usually subjected is ignorance of the laws of lash growth, together with a natural timidity in making local applications of any cosmetic preparation from fear of injuring the delicate structure of the eye. These fears are futile, since a correct method of cultivation, with the application of harmless preparations, is so simple and safe when the proper knowledge of how and why is once acquired. To one who is aware of the cosmetic possibilities of the lashes as an adjunct of physical comeliness, the apparent neglect of many beautiful women to properly take advantage of the cosmetic goods the gods have provided is difficult to understand. Apart from actresses and professional beauties who make an earnest study of every physical asset to enhance their charms, or the smart, cultivated women of discernment, the over-shadowing value of beautiful lashes is unrecognized, for by no other means is the possession of an artistic

sense made so apparent as by their proper cultivation and cosmetic care. One prominent actress who is the possessor of long, beautiful, curling lashes, attributes their beauty to her practice of daily anointing her fingers with pure olive oil, with which she strokes upward and downward the lashes of the upper and lower lids.

Anatomy of the Eyelashes.

The hair of the eyelashes is similar in structure to that of the hair of the brows; they are short, thick, curved hairs arranged in a double or triple row at the margin of the lids; those of the upper lid, more numerous and longer than the lower, curve upward; those of the lower lid curve downward. Because of their curved form their beauty is not only accentuated, but the two sets of lashes do not interlace in closing the lids. The fall and regeneration of the hair composing the eyelashes proceed in a manner somewhat similar to the hair of the brows. The average length of life of an eyelash is about one hundred and thirty-five days, and as a result hairs in all stages of growth are found. The quantity of hair contained in the lashes varies, as does its color and length, in different individuals, even as the hair found in the scalp, brows, and over the body. Near the attachments of the eyelashes are the openings of the sebaceous glands, and of a number of enlarged and modified sweat glands. On the inner surface are the Meibomian glands; and at the inner angle of the lids there is a triangular space in which we find a small papilla, the apex of which is pierced by a minute orifice — the commencement of the Lachrymal canal or tear duct. At the outer side the eyelids approach one another at an acute angle, and lie closer to the eyeball than on the inner side. Disorders of these glands at the margin of

the lids are comparatively frequent, and exert a destructive effect upon the growth and beauty of the lashes.

Diseases of the Eyelashes.

One often finds on the rims of the eyelids the same scale formation due to Seborrhoea as is found on the scalp, and it may be necessary every morning to free the rims of the eyelids from the small adherent scales. They are best removed with a little cotton dipped in luke warm water, to be followed by the use of the succeeding prescription.

R

Sodium Borate	10 grains
Camphor water	1 ounce

Mix. Inject two or three drops in eye with a medicine dropper three times daily.

This preparation will be found most excellent for hot, inflamed eyes. On account of the number of small glands which the lids contain, the lashes are subjected to the effects of glandular inflammations or to the presence of styes or small boils at the hair root. Such conditions should be promptly treated in order to avoid complications which may injure or destroy lash growth.

Defects of the Lashes.

The defects of the lashes most commonly met with are those of, first, *faulty position*. This may be the result of disease, an injury, or as a consequence of the improper angle of the hair follicle with the lid rim, which causes the hair to project from the normal lash line. The correction of this condition is purely surgical. If the hairs project inward against the eyeball and are only one or

two in number they may be removed by plucking; if many in number, a slight operation will be required.

Second, *defects in coloring*. The defects in coloring may be classified as follows: First, *The Congenital Form*, due to an entire lack of natural pigment or coloring matter from birth. In this variety the lack of color is uniform, and a color can only be obtained by the local application of a stain or dye. Second, *The Acquired Form*, usually due to accident or disease, and characterized by the presence of one or more white hairs scattered throughout the extent of the lash. The acquired form is corrected by the treatment of the cause producing it, and by the plucking out of the white hairs in the attempt to force a growth of normally colored lashes. It is, of course, possible to color these white hairs by the use of stains or dyes that will not irritate the eyes.

The Rules of Hygiene as laid down for the care of the hair and brows should be followed in the care of the lashes. Any inflammatory condition which tends to interfere with lash growth should be corrected. If the lash growth is slight or the lashes are dry with split ends, the ends of the lashes should be clipped off below the cleft, the eyelids cleansed with Boric Acid Solution, and warm Olive oil should be applied; or if preferred an antiseptic, non-irritating ointment may be used. Much has been said concerning the accidental introduction of an ointment or oil into the eye; should the usual harmless oil or ointment prescribed be accidentally introduced, nothing more than a momentary feeling of discomfort will result.

The eyelashes are very important organs of protection as well as agents of beauty, and their health should be conserved. Their loss is very disfiguring, although at one time the dictates of fashion decreed that the eyebrows and eyelashes should be plucked from the face. The

results of this operation were so barbarous from a cosmetic point of view that to our best knowledge it is the only freak of fashion that has never been revived. When the eyelashes have been lost from any cause, attempts have been made to create the appearance of lashes by numerous little tattoos along the rims of the lids. Results of such operations, however, are very unsatisfactory. Transplantation of hair has also been attempted with but poor results.

The treatment of defects in the coloring of the lashes resolves itself into the application of a harmless stain or dye, and the preparations used for staining the eyebrows can be used with perfect safety upon the eyelashes, providing no diseased condition is present, *and if care in making the application is exercised*; for the delicate structures of the eye may be injured by the *careless application* of even pure water. The small brushes used in applying the dyes to the eyebrows may be used for a similar purpose upon the eyelashes.

Method of Application.

Two brushes similar in size and shape to those used in applying dye to the eyebrows should be provided.

To apply—moisten the bristles with the liquid and apply only to the tips of the lashes as the fluid will spread over and stain the basal portions.

This can be accomplished by holding the brush stationary against the tips of the lashes and gently rotating the head; by sweeping the tips of the lashes across the brush in the act of opening and closing the eyes; or if preferred, beginning at the inner side of the lash and moving the brush slowly round to the outer angle, staining the hair in its passage. Be particular to thoroughly

stain the lashes of the inner angle. After the lashes have been gone over, close the lids sufficiently to bring the lashes in slight contact and retouch their ends if necessary. When the stain has become perfectly dry, remove any excess dye by brushing with a clean soft brush. Artistically applied in this manner the stain will defy detection.

CHAPTER XVII.

MUSTACHE AND BEARD.

One of the distinguishing characteristics of the male sex is the growth of hair which first appears on the face at the age of puberty. At the same time the corresponding sebaceous glands develop and become more active. The hair growth on the upper lip is known as the mustache; while the hair on the chin and adjacent parts is called the beard.

The hair of the mustache and beard seems to partake of the qualities of both long and short hair, their texture being coarser than the typical long hair of the scalp, and longer than the short hair of the eyebrows and lashes. The mustache if left uncut usually attains a length about mid-way between that of the hair of the eyebrows and the beard; and while the average beard length is six inches, in some cases it has attained a length of several feet.

The same general laws which govern the health and growth of the hair upon other parts of the body are applicable to the hair of the face. The presence on the face of a luxuriant growth of hair long after the scalp has become bald may be explained by the fact that it is of much later growth than the scalp hair; and that the face does not contain the fibrous tissue found in the scalp which by its contraction destroys hair soil. A stricter observance of the laws of hygiene made necessary to preserve its appearance, and the unexplained phenomenon of that influence which has been characterized as a "decorative impulse of Nature," are also factors.

While the growth of hair on the face of the male is considered a badge of virility as well as a means of adornment, when found on the face of the female it constitutes an abnormal disfigurement.

The care and cultivation of the hair of the face has occupied much time and attention through the long ages of the past to the present time. Formerly an abundant hair growth was considered an object of veneration, and an oath sworn by the beard was sacred and binding. Later it lost its religious significance and was worn purely as an object of personal adornment. Today its influence as a cosmetic factor is waning, until the appearance of a heavy beard or a luxuriant mustache is rarely seen; which fact serves as an interesting commentary on the influence of hygiene upon fashion. The mustache as worn today is close cropped or worn short with pointed ends, and does not interfere with oral or facial cleanliness. The beard if worn at all is closely trimmed.

Aside from those preparations used to satisfy the hygienic demands of the hair of the face, and which are identical with those used to meet the requirements of scalp hair, the cosmetic applications most used upon the mustache and beard are those which serve to create and maintain their desired form and position, or as a special dressing to preserve their softness and lustre.

Stick Mustache Wax.

Waxes for the mustache are much used abroad. The following preparations will be found useful in creating a lustre and in maintaining that arrangement of the hair which is most pleasing.

No. 1.

TUBEROSE JASMINE WAX.

℞

White wax	1 ounce
Suet	1 ounce
Tuberose pomade	3 drams
Jasmine pomade	4 drams

In preparing, melt the wax, add the suet, and then the pomades of tuberose and jasmine.

Apply as needed.

No. 2.

ODORLESS MUSTACHE WAX.

℞

Spermaceti	1 dram
White or yellow wax.....	7 drams
Olive oil	10 drams

Melt the spermaceti and wax, then add the oil with constant stirring. Apply as needed.

These preparations are colorless. If it is desirable to deepen the color of the moustache, the addition of burnt Umber will give a brown color; the addition of animal charcoal or lamp black will give a black color. If a colored preparation is desired, yellow wax may be substituted for the white wax.

No. 3.

MUSTACHE WAX.

This preparation when applied to the ends of the mustache will preserve the fine points which so many desire.

℞

White wax	1 ounce
Lard	4 drams
Venice turpentine	4 drams
Gum elemi	50 grains

Melt together with heat and then stir until cool.
Apply as needed.

No. 4.

MUSTACHE DRESSING.

This preparation will impart stiffness to the mustache and beard, and prevent that drooping weakness which is so objectionable.

℞

Mastic	1 dram
Sandarac	2 drams
Resin	4 drams
Alcohol	2 ounces
Ether	2 drams
Perfume extract to suit.....	2 drams

Mix and stir until a perfect solution results, then strain.

BEARD LIQUID.

Preparations for the purpose of imparting gloss to the hair of the beard, and maintaining a fashionable mode of wearing it are much used abroad. The following formulae are those most in vogue. The frequency of application depends upon the personal taste of the one using them. They should be applied by means of a small comb or brush.

No. 1.

BEARD LIQUID.

℞

Rose water	4 ounces
Honey	5 drams
Spirit	75 minims
Capillar syrup	75 minims
Glycerine	40 minims
Salicylic Acid	2 grains

Mix. Apply as needed.

No. 2.

BEARD LIQUID.

℞

Distilled water	3½ ounces
Spirit	6 drams
Dextrine	75 grains

Mix. Apply as needed.

No. 3.

BEARD LIQUID.

℞

Rose water	4 ounces
Spirit	4 drams
Dextrine	2 drams
Salicylic Acid	7½ grains

Mix. Apply as needed.

CHAPTER XVIII.

THE PREVENTION OF GRAY HAIR.

The various hues of the hair are due to the presence of amorpheous brown and black pigments which are grouped under the name of Melanins. We possess little analytical data about the composition of this pigment, and for that reason chemical research has not succeeded so far in creating a natural pigment in an artificial way. The source of this pigment is without a doubt the coloring matter of the blood; but the chemical changes which take place in producing it, are not understood. The pigment of the hair is created in a manner similar to that of the skin, where it is found only in those active cells of the corium or inner skin which are surrounded by blood vessels. It reaches the epidermis or outer skin by protoplasmic movement, through the agencies of the oval or round pigment cells found in the deepest layer of the Epidermis, and which possess short branches that project downward into the corium. These branches connect with the pigment carrying cells, which convey to them the pigment that has been obtained indirectly from the blood. That the pigment is not obtained directly from the blood but is the result of chemical changes, with the formation of a new product called Melanin, which occur after it is taken, is proved by the fact that in its changed character it does not react to tests for iron as does Hemosiderin, a product directly obtained from the blood; and also that it is always found within the pigment carrying cells, while hemosiderin is found without. While these pigment carrying cells are true connective tissue cells, they have

been given a special name by some writers who call them Melanoblasts; by others they are called Chromatophor cells. The *pigment carrying cells* which carry the coloring matter to the hair are found in the hair papilla, the cells found on the lower part and neck being large, while those on the top are small. The *pigment cells* are found imbedded in the concavity of the hair root which surrounds or encapsulates the hair papilla, and touch the surface of the papilla only with one side of their circumference. They possess branches which pass upward between the matrix cells of the cortex where they begin to harden. The cortical cells of light colored hair do not contain pigment, but those of dark hair contain grains of pigment which vary from a yellow to a blackish brown color. A short distance up in the hair matrix, the branches of pigment cells form a net-work which is in close connection with the cortical cells of the third or fourth row of the hair shaft.

Means to increase the pigmentary deposit by stimulating the activity of the cells described have long been sought. Of the various drugs used for this purpose, Pilocarpin for some time was considered one of the best. Its use is attended with a marked stimulation of all the glands of the body, and it is free from irritant properties. It is applied locally in solution to the hair and scalp, or it may be given by hypodermic injection or by the mouth. There are cases on record in which it is claimed that the continued internal use of Pilocarpin caused the hair to become exceedingly coarse and to change its color from light to dark, but we do not believe that these claims can be sustained as a result of the conclusions based upon modern research work. While Pilocarpin is a most excellent hair tonic and stimulant and perhaps possesses the power of slightly darkening the color of the hair, we do not believe

it possesses the property of stimulating the deposit in hair to such an extent that its use will prevent the hair from turning gray, or that the original darker color can be restored through its influence. In the general chapter on hair tonics, pilocarpin has been considered and several formulae containing it in the most effective degree of combination may be found. Other drugs of this class might be considered, but the same general conclusions have been reached as in the case of Pilocarpin.

Acetic Acid

Of the drugs used which have some power of restoring the natural color to the hair, or to prevent the hair from losing its color and turning gray, Acetic acid in solution is the most valuable. Acetic acid is an antiseptic and stimulant of a high order, and in the proper combination it makes an ideal hair tonic; for which purpose it has been extolled highly by some of the most eminent English authorities in the treatment of falling hair and various scalp diseases. In addition to its local action on the hair and scalp *it is the only preparation which has, to the best of our belief, any virtue for preventing the hair from turning gray by stimulating the activity of the pigment carrying cells, thereby increasing the deposit of the natural coloring matter.* We have used Acetic acid alone and in combination, with the utmost satisfaction in many cases.

If the scalp and hair contains much oil, the amount of Glycerine or Castor oil in the following preparations should be diminished or entirely omitted.

No. 1.

ACETIC ACID HAIR VIGOR.

This preparation is an efficient tonic and scalp antiseptic, and will stimulate the deposit of the natural color-

ing matter of the hair. It is especially valuable when applied to scalp and hair that are greasy or oily.

Rx

Acetic Acid, U. S. P.....	2	drams
Resorcin	1	dram
Spirits Odorati	1	ounce
Rose water, enough to make.....	4	ounces

Rub thoroughly into scalp every second or third day.

No. 2.

The combination of Acetic Acid and Borax increases the antiseptic properties of this preparation. The medicinal effect is the same as No. 1, but containing Glycerine, it should not be used on oily hair.

ACETIC ACID — BORAX HAIR VIGOR.

Rx

Acetic Acid, U. S. P.....	3	drams
Pulverized Borax	45	grains
Glycerine	1½	drams
Alcohol	3	drams
Rose water, enough to make.....	6	ounces

Rub thoroughly into scalp every second or third day.

No. 3.

The medicinal effect of this preparation is practically the same as the preceding, with the exception that the addition of Red Peruvian Bark adds the virtue of a quinine tonic.

ACETIC ACID — BARK HAIR VIGOR.

℞

Acetic Acid, U. S. P.....	$\frac{1}{2}$	ounce
Tincture of Red Peruvian Bark.....	1	ounce
Castor Oil	1	ounce
West India Bay Rum.....	3	ounces
Essence of White Rose.....	$\frac{1}{2}$	ounce

Rub thoroughly into scalp two or three times a week.

No. 4.

This preparation is an efficient tonic and scalp antiseptic, its stimulative effects being similar to that of prescription No. 1. The addition of glycerine however, makes it more suitable for application to scalp and hair that contain but little natural oil. More glycerine may be added if desired.

ACETIC ACID - RESORCIN HAIR VIGOR.

℞

Acetic Acid, U. S. P.....	3	drams
Resorcin	24	grains
Spirits Odorati	$1\frac{1}{2}$	ounces
Glycerine	2	drams
Rose water, enough to make.....	6	ounces

Rub thoroughly into scalp every second or third day.

CHAPTER XIX.

GRAY HAIR.

Gray Hair — Canities (kan-ish-e-ez), Whiteness or grayness of the hair; decoloration of the hair.

Gray hair is caused by the partial or complete failure of the pigment granules to form in the papilla or in the hair bulb, and as the hair gradually grows upward it shows a gray or an uncolored hair. The lack of pigment alone would produce a yellowish white color; while the silvery or perfect white shade is due to the fact that there is not only loss of pigment, but also a change in the hair texture, so that small air spaces are formed in the cortical layer of the hair shaft which become filled with air and refract the light in such a way that the silvery white color is produced. This formation of air cells in the cortical layer is accompanied by a roughness or unevenness of the cuticle or outside covering of the hair, which assists in refracting equally to all sides the white light of the air cells. The varying shades of grayness depend of course upon the amount of pigment found in the cortex.

Gray hair is usually considered as due to age, to some disturbance of the pigmentary deposit due to disease, or to some unknown cause which, while interfering with the amount of pigment formed, is not necessarily accompanied by any apparent change of hair health. In some instances the hair may be gray from birth, when it is due to congenital defects of the pigment forming cells. Grayness may be congenital or acquired, partial or complete, and slow or sudden in its onset.

Congenital Gray Hair.

Hair that is gray or white from birth includes all cases in which there is a congenital absence of pigment; as in the case of Albinos. In Albinism this congenital absence of pigment includes the entire skin surface, the hair, and the Choroid Coats and Irides of the eye. Owing to this lack of pigment without apparent change in the hair texture, the color of the hair is not modified by a gray shade, and presents a uniformly yellowish white color. In other instances the scalp is marked by the occurrence of white patches of hair, usually round in shape and of large or small size. This form of congenital grayness seems to be due in part to the influence of heredity, as the gray spots frequently appear among several members of succeeding generations in certain families.

Treatment of Congenital Gray Hair.

Congenital gray hair, or hair that is gray from birth, requires the same care and attention to promote hair health and growth as normal colored hair. Since there is an entire absence of hair pigment it is of course impossible by cultivation alone to acquire colored hair. One can however, by the use of harmless modern stains or dyes produce a shade so simulating a natural color as absolutely to defy detection, and without incurring injurious consequences to the hair and scalp. Cases of congenital grayness are so rare, however, that the subject hardly merits more than passing mention. The rules of hygiene as described should be carefully followed out to promote the general health of the hair, and the selection of a suitable stain can be made from those given for staining and dyeing acquired gray hair.

Acquired Gray Hair.

Acquired gray hair is divided into two classes. *Premature* gray hair, or hair that begins to turn gray before the fortieth or forty-fifth year; and *senile* gray hair, or hair that has become gray as a result of the changes coincident with age. Many authorities comment on the difference in texture which they believe exists between premature and senile gray hair, asserting that the texture of premature gray hair is coarser, with a rougher surface than that possessed by normal hair; while in the senile gray hair there exists no difference in texture as a result of the change from colored to uncolored hairs. Insomuch as the color of acquired senile white hair is due not only to a loss of pigment, but also to the presence in the Cortex of air cells filled with air, and to an unevenness of the hair shaft, it is my belief that hair which turns white in adult life from any cause, presents a larger, coarser, and slightly rougher hair shaft than the original colored hair.

In the acquired form of gray hair the change from colored to uncolored hairs proceeds more or less rapidly, and is seemingly affected through hereditary influence, by the texture and color of the individual hair, and by accident or disease. In the acquired form apparently not influenced by accident or disease, the hair of the temples is usually affected first, the grayness gradually spreading over the sides and top of the head, although this process may begin over any part of the scalp. The grayness usually appears first at the roots of the hair. The darker the original color of the hair, the more apt it is to turn gray, and earlier in life than hair of lighter shades.

Many instances are on record where the hair suddenly turned gray from shock, fright, or sickness; but the acquired gray or white color is usually due to some disor-

der of nutrition of the hair papilla which interferes with the function, or the natural deposition of the hair pigment, together with an accompanying change in hair texture. The pigment forming power alone may be affected, the papilla in all other respects being normal and the general health of the hair and the color of the scalp remaining unchanged.

There is no Direct Connection Between Gray Hair and Falling Hair, if the Grayness is not Due to Some Diseased Condition, or to the Natural Changes Due to Age. As stated, heredity is an important factor in the causation of acquired gray hair, the members of some families almost without exception turning gray early in life. Gray hair is more common among men than women; and chronic diseases, excesses, nervous irritability, constant exposure of the hair to extremes of heat and cold; the frequent wetting and incomplete drying of the scalp, especially if cold water be used; or any cause which lowers the body vitality, such as early menstrual change in women, may cause gray hair.

Treatment of Acquired Gray Hair.

Gray hair which is the result of either constitutional or local disease or both, can be greatly benefited by adopting those means to acquire and maintain the fullest vigor of the body. If constitutional disease is present the use of iron, phosphorus and sulphur, either alone or in conjunction with other and appropriate remedial agents is recommended, especially if there is a marked physical debility.

Individuals who are predisposed to gray or falling hair can accomplish much by practicing systematic massage, together with the use of specific remedial agents, to preserve the texture and color, as well as to stimulate the growth, of new hair. Massage action serves to increase

the blood supply, thereby increasing the nourishment of the hair; the functions of all the glandular structures in the scalp are regulated, promoting hair health; and the elimination of waste and poisonous matters from the scalp is hastened. The medicinal applications must of necessity be devoid of harmful effects when applied to the hair and skin; and must prevent or cure the ravage of diseases which effect the health of the hair papilla, and supply the natural elements when absent, which conserve the strength of the old hair and assist in stimulating the growth and coloring of the new hair. The proper method of shampooing the hair and scalp should be followed, and a selection of the proper bleaching, staining, or dyeing preparations may be made from the wide range of formulae found in the following pages.

CHAPTER XX.

BLEACHING THE HAIR.

Bleaching the hair is that process by which the natural pigment that gives color to the hair is removed wholly or in part by some bleaching agent, thereby producing a lighter shade. The color of the hair may be lightened by bleaching, or by the application of a dye, in which case a bleaching agent must be used to decolorize the hair before its application, in order that one may secure a uniform shade, and to permit of its perfect penetration. The bleaching process is not necessary to obtain a darker color, and for this reason hair restorers enjoy a wide popularity since by their action they restore gray, faded hair to its original darker color.

The process of bleaching is accomplished by the employment of various bleaching agents; and washing the hair in a Carbonate of Soda solution, or a Soda solution to which a few drops of Ammonia have been added, has been widely used. The application of lemon juice and hot water has also found favor, especially in removing the yellowish color and creating the white, lustrous tint in white hair; under which subject the method of using is treated at length. Another, but inferior way of applying lemon juice is to entirely remove the peel from the lemon, divide it into sections, and apply the juice directly from the cut surface by rubbing it upon the hair and scalp. If all the rind is not removed slightly discolored streaks may result.

Lemon Juice Hair Bleach.

The lemon juice treatment will lighten the color of Blonde, Chestnut, or Brown Hair, and is harmless if not

used to excess—its application once in from three to four weeks is usually enough. To lighten the shade, first shampoo with soap and water and while the hair is still moist and warm saturate it with lemon juice which should be allowed to remain for ten or fifteen minutes. During this time the warmth of the scalp may be maintained by wrapping it in a warm towel; follow this by rinsing the hair with warm soft water and dry in the sun, using warm soft towels with repeated shaking to assist the drying process.

Peroxide of Hydrogen is the most active single agent for bleaching the hair. The objections to its use are that it has a tendency to make the hair dry and brittle. It may be used in full strength, diluted with water, or with the addition of a few drops of chemically pure Ammonia, the strength being dependent upon the texture of the hair and the shade desired. To change the shade of black or dark brown hair into a chestnut or auburn by the bleaching process, a full strength solution of a reliable peroxide must be used; if to this solution a few drops of chemically pure ammonia is added a golden hair shade will result. For hair of a lighter shade, or for very fine hair, a diluted solution of peroxide to which ammonia may or may not be added would be required.

Very rapid bleaching due to the too frequent application of peroxide, or the use of a very strong peroxide solution to which ammonia in excess has been added, will result in dry, brittle hair. When ammonia is used it should be chemically pure and not greater in proportion than one to twenty of peroxide. The first application should result in changing the shade of black to dark chestnut; dark brown to light chestnut; brown to golden brown; light brown to light golden; and dark blonde to

light blonde. After the application of peroxide of hydrogen the hair should be shampooed, else the decoloration will continue for several days, resulting in failure to obtain the exact shade desired and injurious consequences to the hair. Before applying any bleaching agent or dye the hair should be rendered absolutely clean by a thorough shampoo, in order to remove all traces of oil or foreign matter. Occasionally the action of a bleaching agent or dye is not uniform; this is usually due to the fact that the hair has not been thoroughly cleansed of oil, with a consequent failure of the bleaching agent or dye to penetrate the hair shaft, or to the fact that the soap used in the shampoo mixture was impure. The best shampoo mixture is made from pure white soap and water and applied in the manner described under *The Shampoo*. To this may be added a teaspoonful of Carbonate of Soda to a pint of the shampoo mixture if the hair and scalp contain much oil. Remove all oil by repeated rubbing and rinsing, and to the final rinse water a little Acetic Acid or lemon juice is sometimes added. Complete the shampoo by thoroughly drying the hair and scalp with warm, soft towels.

Method of Applying Peroxide of Hydrogen.

Separate the hair into four sections by making the first parting from front to back along the middle line of the scalp; the second part should be made across the top of the head from ear to ear; then subdivide each quarter section into half-inch sections. If other ingredients are added to the peroxide, a quantity sufficient to complete the bleaching process should be made before the application, in order that the bleaching agent may be of uniform strength. Pour a small quantity of the bleaching agent in a saucer and apply to the hair by means of a tooth brush, or any other small brush desired; and begin by making the

first application to the front hair as the hair here is more difficult to treat. The brush should not contain an excess of liquid as the application must be evenly made, and the hair so held that any excess fluid will flow toward the scalp; otherwise the hair points may be of a lighter shade than the roots. Combing the hair with a fine toothed comb aids in obtaining an even distribution of the liquid and exposes it more thoroughly to the action of the air. After the hair is dry it may be retouched as needed, then a final drying, after which it should be again washed.

To Bleach the Roots of the Hair.

Divide the hair into small sections as directed, and make a knot in the hair a short distance from the scalp to prevent the liquid running toward the ends; then apply the peroxide on both sides of the divided sections. The peroxide should be left on the roots for ten or fifteen minutes before drying. Cold, hard water should never be used when preparing the hair for bleaching as a deposit of lime or iron may be left which would interfere with the decolorizing.

Red hair is but little affected by the bleach because of the small proportion of iron present. Black hair is affected the most.

To impart a bright lustre to faded hair the following preparation may be used after the application of a plain shampoo.

R

Ammonia (chemically pure), 10% U. S.

P.	1 tablespoonful
Peroxide of Hydrogen.....	2 tablespoonfuls
Warm soft water.....	1 quart
Mix and pour over the hair and scalp.	

The hair should be thoroughly rubbed with the fingers to insure uniform action. Dry without further rinsing.

CHAPTER XXI.

HAIR DYES.

Hair dyes are substances used in giving color to the hair. A perfect dye must possess a certain chemical affinity to the hair substance; it must not only remain on the surface of the hair, but should dye it through and through, else it would be easily removed by rubbing, washing with soap and water, or in other ways; and it should be harmless to the hair and scalp.

There may be some slight variation in the action of dyes upon different kinds of hair, due to a difference in texture and to some slight variation of the absorbing properties of hair for pigments, as well as slight deviations in the chemical constituents of the hair of different people. These slight differences however, would not affect in any manner the results obtained if the dye is good and the application is intelligently made.

Hair dyes may be classified in several ways. *Progressive dyes, or hair restorers*, which exert a progressive, or gradual restorative action on the hair, and which require a longer or shorter period of time, according to the nature of the dye, before the shade desired is produced; and *Instantaneous Dyes*, or dyes that produce the desired color almost instantly.

A second classification is sometimes made according to whether or not the dye is made from vegetable extracts or mineral salts. Of the dyes used, those obtained from the vegetable kingdom, as well as many mineral dyes, are usually considered harmless to the hair and scalp; while

some mineral dyes may not be free from danger, especially to those who have a diseased or abraded scalp, and also to those who may possess an idiosyncrasy toward certain minerals.

Dyes containing metal salts are practically all instantaneous dyes, and are preferred by some on account of the fact that they require much less time to produce the desired shade. These dyes are frequently made up in two solutions, and applied one after the other, the mixing of the two taking place on the hair; or they may be mixed and then applied. These solutions are known as, A, the dye; B, the Mordant, or fixer, which latter is usually applied first.

In ancient times the practice of dyeing the hair was fraught with more or less danger, due to ignorance of proper dye stuffs and improper methods of applying them. Today this condition of danger has been largely dissipated, for among our modern hair dyes we are able to find preparations which satisfy in most cases all demands on shades, genuineness and harmlessness.

HAIR RESTORERS.

Hair restorers or progressive dyes form that class of preparations which, applied, will restore the original dark shade to gray or faded hair. They are preferred to instantaneous dyes by many on account of the fact that the hair can be retouched or restored to its original dark color, the change in shade being so gradual and extending over such a period of time that the dyeing process does not attract attention. In addition to the restoration of color, the ideal preparation should free the scalp from dandruff and prevent falling hair as well as promoting the growth of new hair. After application the hair should be left free from foreign matter yet soft and flexible, with a glossy

texture or sheen. Many hair restorers contain mineral salts, some of which are said to entail harmful consequences in some cases; as a rule the use of vegetable preparations is harmless. The rapidity with which the color of the hair is restored depends upon the nature of the preparation used, the frequency of application, the texture of the hair, the quantity of oil it contains, and the amount of grayness present.

In the following list will be found prescriptions for hair restorers embracing practically every progressive dye that possesses merit. Many formulas contain the same restorative agent, and differ only in the kind of perfume used; so that an agreeable as well as an efficient product may be selected.

Vegetable Hair Restorers.

No. 1.

HAIR TONIC AND RESTORER.

The restorative action of this preparation is very mild. It is also a most excellent hair tonic.

R

Bay Rum	5 ozs. 2 drams
Alcohol	2 ozs. 5 drams
Castor Oil	1½ drams
Ammonium Carbonate	40 grains
Tincture Cantharides	80 minims

Mix. Shake well and use daily.

No. 2.

HAIR RESTORATIVE.

The restorative action of this prescription is similar to No. 1. Perfumed with Rosemary water it will be found very pleasing to use.

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R

Glycerine of Borax.....	4 drams
Strong Solution Ammonia.....	3 drams
Spirits Camphor	1 dram
Compound Tinct. Cinchona.....	2 drams
Rosemary water, enough to make.....	6 ounces

Mix. Apply to scalp daily.

No. 3.

HAIR RESTORER.

This preparation will be found to exert a gradual, mild restorative action similar to that of prescriptions Nos. 1 and 2. It will prove an excellent hair tonic with an agreeable odor of Rosemary and Lavender.

R

Oil Rosemary	10 drops
Solution Ammonia	2 drams
Tincture Cantharides	4 drams
Lavender Water	2 drams
Distilled water, enough to make.....	6 ounces

Mix. Apply to scalp daily.

No. 4.

PERSIAN HAIR RESTORER.

This preparation will darken the color of the hair and is absolutely harmless when applied.

R

Vinegar Cantharides	95 grains
Milk of Sulphur	45 grains
Glycerine	2 ounces
Oil Rose Geranium.....	2 drops
Distilled water, enough to make.....	8 ounces

Mix. Shake well and apply to scalp once daily.

No. 5.

HAIR RESTORER.

This preparation is a harmless and slow acting color restorer. It will be found an elegant and efficient prescription.

℞

Tincture Cantharides	2 drams
Tincture Galls	2 drams
Oil of Rose Geranium.....	10 drops
Carmine	6 grains
Rectified Spirit of Wine.....	1 ounce
Rose water	5 ounces

Mix. Apply daily.

No. 6.

STIMULATING HAIR RESTORER.

This prescription will slightly darken the color of the hair. It is harmless when applied and exerts a stimulating effect upon the scalp.

℞

Powdered Cantharides	45 grains
Oil of Almonds.....	6 drams
Oil of Rosemary.....	1 dram
Strong Solution of Ammonia.....	6 drams
Elder Flower Water.....	1 ounce
Rose water	1 ounce
Distilled water, enough to make.....	8 ounces

Mix. Apply to scalp at bed hour.

No. 7.

HAIR RESTORER.

The medicinal action of this preparation is similar to that of No. 6. On account of the oils which it contains its use is especially indicated when the scalp and hair is dry and brittle.

R

Castor Oil	1 ounce
Olive Oil	1 ounce 5 drams
Perfume, preferred odor,.....	40 minims
Spirit Rosemary	2 ounces 5 drams
Strong solution of Ammonia.....	5 drams
Tincture Cantharides	5 drams

Mix. Apply to scalp daily.

No. 8.

HAIR RESTORER.

This is a very fine preparation. It will slowly darken the color of the hair.

R

Quinine Sulphate	12 grains
Rose Water	5 ounces
Dilute Sulphuric Acid.....	10 drops
Dissolve and add:	
Tincture Jaborandi	4 drams
Eau de Cologne.....	1 ounce
Bay Rum	1 ounce

Mix and add to first mixture. Apply daily.

No. 9.

STIMULATING HAIR RESTORER.

This preparation exerts a slight coloring action on the hair. It is also an active hair grower.

℞

Pilocarpin Muriate	8 grains
Quinine Sulphate	8 grains
Glycerine	6 drams
Spirit of Nutmeg.....	1 ounce
Tincture Jaborandi	1 ounce
Vinegar Cantharides	2 ounces
Alcohol, enough to make.....	8 ounces

Mix. Apply to scalp at bed hour.

No. 10.

FRENCH HAIR RESTORER.

This preparation is a most excellent one. It has more of a darkening effect upon the hair than the preceding preparations and its tonic effect is pronounced.

℞

Quinine Hydrochlorate	20 grains
Alcohol 70%	8 ounces
Tannic Acid	40 grains
Tincture Cantharides	50 minims
Glycerine	2 drams
Cologne Water	3 drams
Pulverized Sandal Wood.....	20 grains
Extract of Vanilla.....	$\frac{1}{2}$ dram

Mix and shake. Stand four hours and filter.

Sig. Rub into scalp daily.

No. 11.

QUININE HAIR RESTORER.

This quinine hair restorer has a marked restorative action. It will not only darken the hair, but it possesses all the virtues of a good hair tonic.

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R

Tincture Cinchona	1½	drams
Tincture Nut Galls.....	2	drams
Carminc	10	grains
Oil of Nutmeg.....	10	grains
Alcohol	6	drams
Rose Water	3	ounces
Orange Flower Water.....	4	ounces

Mix. Apply daily.

No. 12.

HAIR RESTORER.

The use of this preparation will darken the color of the hair; it is absolutely harmless and is a fine hair and scalp tonic.

R

Tincture Cantharides	2	drams
Tincture Galls	2	drams
Oil Rose Geranium.....	20	drops
Carminc	7	grains
Alcohol	7	drams
Rose Water	5	ounces

Mix. Apply daily.

No. 13.

HAIR RESTORER.

The use of tea has been advocated for many years as a harmless preparation that will darken the color of the hair. The writer recalls several instances of ladies past the age of sixty-five years whose hair possessed a beautiful gloss, with an entire absence of gray or white hair. For this perfect preservation of color and texture, the use of tea was given credit.

℞

Black Tea	3	ounces
Boiling Water	8	ounces
Boil tea for thirty minutes, maintaining the quantity of water; then cool, strain through a thin cloth, and add		
Bay Rum, imported.....	4	ounces
Glycerine	1½	ounces

Mix. Apply to the hair and scalp daily.

This preparation is entirely harmless, and similar preparations have been extensively used. It stains the hair a dark color. A brown dye may be produced by substituting three ounces of Extract of Log Wood for the Tea.

No. 14.

HAIR RESTORER.

The action of this tea restorer is similar to that of No. 13. In addition it contains Tincture of Cantharides, which gives it a more pronounced tonic effect.

℞

Black Tea	4	drams
Boiling water	8	ounces
Let simmer for thirty minutes, then strain, cool, and add		
Glycerine	3	drams
Bay Rum	6	ounces
Tincture Cantharides	1	dram

Let stand for two or three days and perfume to suit.
Apply daily.

Vegetable and Mineral Hair Restorers,**No. 1.****HARMLESS HAIR RESTORER.**

This preparation will not stain the scalp; it will slightly darken the color of the hair and will be found efficient and harmless.

℞

Tincture Acetate of Iron.....	4	drams
Sulphuret Potassium	2½	grains
Glycerine	2	drams
Oil of Rose Geranium.....	10	drops
Rain Water	8	ounces

Mix. Apply daily.

Leave bottle uncorked until solution becomes odorless, then add the Oil of Rose Geranium.

No. 2.**FLORAL HAIR RESTORER.**

This preparation has a fine coloring effect, and will be found most excellent when applied to a hot, itching, burning scalp. We consider it one of the best mild vegetable and mineral hair restorers. It should be put up in amber colored bottles and protected from the light.

℞

French Rose Water.....	7½	ounces
Triple Extract of Rose.....	6	drams
Citrate of Bismuth.....	2	drams
Hyposulphite of Soda.....	½	dram
Glycerine	½	dram
Ammonia, quantity sufficient.		

Apply to scalp at bed hour.

No. 3.

RESTORATIVE AND TONIC.

This preparation is a slow acting, progressive hair dye and scalp tonic.

℞

Hoffman's Balsamic Mixture.....	1½ ounces
Tincture Cantharides	2½ drams
Glycerine	1 ounce
Rose Water	6¼ ounces
Carbonated Ammonia	2½ drams

Mix. Shake and filter. Apply daily.

No. 4.

RESTORATIVE OINTMENT.

Hair restorers are for convenience of application usually prepared in the form of a liquid; for those who prefer the use of an Ointment we submit the following which will be found very efficient:

℞

Vinegar Cantharides	3 drams
Glycerine	1 dram
Mix.	
Etheiopes Mineral	20 grains
Oil of Bergamot.....	20 drops
Olive Oil	4 drams
Lard	2 drams
Yellow Beeswax	2 drams

Make an ointment.

Sig.—Apply the ointment every night for a week; then apply a small quantity of the ointment every third morning.

CHAPTER XXII.

LEAD AND SULPHUR HAIR RESTORERS

Preparations containing lead and sulphur comprise by far the largest class of hair restorers advertised. They are sold under the name of "hair promoters," "hair vigors," or "hair restorers." Their action is more rapid than most purely vegetable products, and their effect is more lasting as they do not decompose so readily under the influence of light and oxygen. When applied to the hair the sulphur and lead combine upon exposure to the air to form a black lead sulphide stain. These preparations should be applied to the hair only, as otherwise the clothing and skin may be stained. Solutions containing lead salt should be applied with care as they are said to be injurious to some scalps, especially if abrasions or diseases of the scalp are present. Theoretically, these preparations are considered as toxic in nature, yet in actual practice poisonous effects from their use are practically unknown.

In almost all preparations where Sulphur is used an insoluble precipitate forms in the bottom of the bottle; therefore, unless directions are given to the contrary, the preparation should be well shaken before applying to the hair.

When using Sulphur hair restorers, wash the hair at long intervals only. If the hair is very gray, the hair restorer may be applied two or three times daily for the first week; then twice a day until the desired color is obtained; then as needed.

No. 1.

The dyeing properties of this preparation are due to the presence of Lead alone, and it is one of the best of its kind.

℞

Sugar of Lead.....	$\frac{1}{2}$ dram
Glycerine	4 drams
Lavender Water	1 ounce
Distilled Water	8 ounces

Mix. Moisten brush with solution and use night and morning.

No. 2.

ODORLESS SULPHUR HAIR RESTORER.

The addition of Sulphur to a hair restorer containing Lead yields a more satisfactory product than a simple Lead preparation. Lead and Sulphur combine to form a dark Lead Oxide which increases the dyeing property, and the sulphur is of benefit to the hair. The odor of the Lead and Sulphur is objectionable to some. The following preparation is practically odorless.

℞

Sulphur	65 grains
Lead Acetate	95 grains
Glycerine	$1\frac{1}{2}$ ounces
Water	$5\frac{1}{2}$ ounces

Dissolve Lead Acetate in water, then add Glycerine and Sulphur.

DIRECTIONS: Moisten brush with solution and apply once or twice daily until the color is restored; after which an occasional application will prevent the hair from turning gray.

No. 3.

TONIC SULPHUR HAIR RESTORER.

The following preparation is not only a good hair restorer, but its stimulating action on the scalp is increased by the Cantharides which it contains.

℞

Sulphur Precipitate	2 drams
Lead Acetate	2 drams
Tincture Cantharides	1 dram
Glycerine	3 drams
Water	8 ounces

Dissolve Lead salt in water and add remaining ingredients.

DIRECTIONS: Moisten brush with solution and apply once or twice daily until the color is restored; after which an occasional application will prevent the hair from turning gray.

No. 4.

ROSE WATER - SULPHUR HAIR RESTORER.

The body of this preparation is composed of Rose water; the odor will be found pleasing.

℞

Sulphur Precipitate	2 drams
Lead Acetate	2 drams
Glycerine	10 drams
Rose Water, enough to make.....	6 ounces
Mix.	

Moisten brush with solution and apply once or twice daily until the color is restored; then an occasional application will prevent the hair from turning gray.

No. 5.

LAVENDER - SULPHUR HAIR VIGOR.

The following preparation is an efficient hair restorer. It is scented with the Oil of Lavender, and will be found agreeable to use.

℞

Lead Acetate	1½	drams
Sulphur Precipitate	3	drams
Glycerine	6	drams
Oil of Lavender.....	15	drops
Rectified Spirits	2	drams
Water, enough to make.....	8	ounces

Dissolve Lead Acetate, Sulphur, and Oil of Lavender in Rectified Spirits and Glycerine, and then add water gradually.

Moisten brush with solution and apply once or twice daily until the color is restored; then an occasional application will prevent the hair from turning gray.

No. 6.

MYRRH - SULPHUR HAIR RESTORER.

In the following preparation we have an excellent hair restorer. In addition to the restorative agents, it contains Jamaica Rum scented with Spirits of Myrrh, making an elegant and pleasing preparation.

℞

Lac Sulphur	15	grains
Lead Acetate	15	grains
Soda	30	grains
Glycerine	3	drams
Spirits of Myrrh.....	2	ounces
Jamaica Rum	1	ounce
Water	4	ounces
Mix.		

Moisten brush with solution and apply once or twice daily until the color is restored; after which an occasional application will prevent the hair from turning gray.

No. 7.

ROSEMARY — SULPHUR HAIR RESTORER.

For those who prefer a Sulphur restorer perfumed with the Spirit of Rosemary we submit the following formula:

℞

Sulphur Precipitate	75 grains
Lead Acetate	30 grains
Glycerine	5 drams
Spirit of Rosemary.....	4 drams
Distilled water, enough to make.....	6 ounces
Mix.	

Moisten brush with the solution and apply once or twice daily until the color is restored; then an occasional application will prevent the hair from turning gray.

No. 8.

ORANGE FLOWER - SULPHUR HAIR RESTORER.

If preferred, Orange Flower water may be used as a perfume, as in the following:

℞

Sulphur Precipitate	130 grains
Lead Acetate	70 grains
Glycerine	2 drams
Orange Flower Water, enough to make.....	8 ounces
Mix.	

Moisten brush with the solution and apply once or twice daily until the color is restored; then an occasional application will prevent the hair from turning gray.

No. 9.

ALMOND - SULPHUR HAIR RESTORER.

The restorative action of this preparation is similar to the preceding ones. It is scented with the Oil of Almonds which gives it a pleasant and lasting perfume.

℞

Sulphur Precipitate	75	grains
Lead Acetate	60	grains
Alcohol	1	dram
Glycerine	1½	drams
Essential Oil of Almonds.....	30	drops
Distilled water, enough to make.....	8	ounces
Mix.		

Moisten brush with solution and apply once or twice daily until the color is restored; after which an occasional application will prevent the hair from turning gray.

No. 10.

SULPHUR AND LEAD HAIR RESTORER.

The following preparation is not only very efficient as a hair restorer, but is scented with Rose Geranium, one of the most popular and satisfactory perfumes for restorers of which we have knowledge:

℞

Sulphur Precipitate	45	grains
Lead Acetate	60	grains
Tincture Cantharides	1½	drams
Glycerine	3	drams
Oil of Rose Geranium.....	10	drops
Distilled water, enough to make.....	6	ounces
Mix.		

Moisten the brush with solution and apply once or twice daily until the color is restored; then an occasional application will prevent the hair from turning gray.

No. 11.

SULPHUR AND LEAD HAIR RESTORER.

We consider the following preparation a very fine hair restorer; the color obtained by its use is more lasting than that produced by many Sulphur hair restorers:

℞

Lac Sulphur	55 grains
Lead Acetate	48 grains
Jamaica Rum	12 drams
Bay Rum	24 drams
Glycerine	1 dram
Salt	48 grains
Rose Water	3 ounces 2 drams
Mix.	

Moisten brush with the solution and apply once or twice daily until the color is restored; after which an occasional application will prevent the hair from turning gray.

No. 12.

HAIR STIMULANT RESTORER.

The restorative action of this preparation will be found most excellent. It contains Acetic Acid, which, more than any other preparation, is said to stimulate and increase pigmentary deposit in the hair. Cantharides acts as an excellent hair tonic and the perfume of Rose is especially desirable.

℞

Precipitated Sulphur	13 grains
Lead Acetate	3 grains
Acetic Acid	4 drams
Glycerine	4 drams
Tincture Cantharides	4 drams
Oil of Rose Geranium.....	5 drops
Distilled water, enough to make.....	6 ounces

Moisten the brush and apply the solution once or twice daily until the color is restored; then an occasional application will prevent the hair from turning gray.

No. 13.

BERGAMOT HAIR RESTORER.

The proportion of Sulphur and Lead in this preparation is small; hence the restoration of color is not so rapid as that obtained by the use of some of the preparations previously given. It also serves as a scalp tonic, and is scented with the Oil of Bergamot, a perfume much in demand.

℞

Lac Sulphur	1	dram
Sugar of Lead.....	1	dram
Glycerine	1½	drams
Tincture Cantharides	1	dram
Oil of Bergamot.....	½	dram
Rain Water	8	ounces

Mix. Rub in well with the fingers once daily until the desired shade is obtained—then as needed.

14.

SULPHUR SALICYLIC HAIR RESTORER.

We believe this to be one of the best Sulphur hair restorers. It restores gray, faded hair to its original dark color; the color is very lasting, and the preparation cleanses and directly stimulates the scalp.

℞

Sulphur washed	1 dram
Salicylic Acid	1 dram
Lead Acetate	$\frac{1}{2}$ dram
Tincture Cantharides	1 dram
Glycerine	$1\frac{1}{2}$ drams
Bay Rum	4 drams
Salt	1 dram
Water, enough to make.....	4 ounces
Mix.	

DIRECTIONS FOR USE: Moisten the brush with the solution and apply once or twice daily; then an occasional application will prevent the hair from turning gray.

No. 15.

JOCKEY CLUB SULPHUR HAIR RESTORER.

We consider the following preparation very fine, containing all the essentials necessary to create a satisfactory hair restorer, scalp tonic, and a pleasing, agreeable preparation:

℞

Lac Sulphur	$1\frac{1}{2}$ drams
Sugar of Lead.....	1 dram
Alcohol	4 drams
Jamaica Rum	1 ounce
Aqua Ammonia	$\frac{1}{2}$ dram
Table Salt	$\frac{1}{2}$ dram
Glycerine	$1\frac{1}{2}$ drams
Extract Jockey Club.....	$\frac{1}{2}$ dram
Oil of Bergamot.....	2 drops
Rain Water	6 ounces

Mix the Lead, Sulphur, Alcohol and the Ammonia, and let stand for 14 hours; then add remaining ingredients to the water. Mix solution by shaking and let stand for five days.

DIRECTIONS: Wet the hair thoroughly with the clear liquid several times a week, taking care not to disturb the sediment in the bottom of the bottle. After the first week an occasional application will prevent the hair from turning gray.

No. 16.

SULPHUR HAIR RESTORER AND TONIC.

This preparation has been widely used with satisfaction. The change in color requires about two weeks to get best results.

℞

Precipitated Sulphur	1	dram
Acetate of Lead.....	$\frac{1}{2}$	dram
Bay Rum	1	dram
Glycerine	1	dram
Aqua Ammonia	$\frac{1}{2}$	dram
Common Salt	$\frac{1}{2}$	dram
Rose Water	8	ounces

Rub up Sulphur with the Glycerine; dissolve the Lead in the Bay Rum; and dissolve the salt with the Rose water. Mix and add the Ammonia. Keep in a dark colored bottle.

TO APPLY: Pour a little into the hand and rub into the scalp three times daily for the first week; then twice a day until the desired color is obtained; then as needed.

No. 17.

AN ELEGANT SULPHUR HAIR RESTORER.

In this preparation there is no objectionable precipitate. It is an elegant and very efficient product.

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R̄

Hyposulphite of Soda.....	4 drams
Distilled Water	4 ounces
Dissolve.	
Acetate of Lead.....	1 dram
Distilled Water	4 ounces
Dissolve. Mix with first solution, filter and add	
Glycerine	4 drams

Apply daily to roots of hair with a brush or with the fingers till the desired color is restored. Then as needed.

CHAPTER XXIII.

INSTANTANEOUS HAIR DYES.

Vegetable Hair Dyes.

Of the vegetable hair dyes, *Henna*, alone or in combination, is the most widely known. *Henna* is a small shrub which somewhat resembles our lilac, and is grown principally in the hot countries of Asia. The flowers are yellow in color and have a musk-like odor; the fruit is the size of a large pea. The leaves from which the dye is made contain a pigment similar to the tannins, and are collected during July, when they are dried and powdered.

Henna is usually applied in the form of a poultice made from the powdered leaves, or rarely, as a brew, when it is desired to impart an amber or reddish tint to the hair. The *henna* powder or paste found on the market usually consists of a combination of *Henna* with Copper, Pyrogallol and Carbon; the paste is made by the addition of an oil to the powder.

The application of *henna* alone imparts a red tint to the hair, but does not lighten the natural shade. *Henna* should not be applied to hair that has been previously dyed with metallic dye without first removing all traces of the dyeing agent previously used; nor to faded, gray, or discolored hair without first obtaining a uniform shade by bleaching.

To obtain a shade other than that which the use of *Henna* alone would give, it is combined with *Reng*. A powder prepared in a manner similar to that of *Henna* is made from the leaves of the *Indigofera Argentea* or In-

digo plant, and combined with the powdered leaves of the Henna. The application of Reng alone will give a bluish black color, but by combining the two in varying proportions, and by regulating the length of time of application, various shades of color ranging from blonde to black may be produced.

Henna and Reng

The Oriental method of applying the Henna and Reng is as follows:

The henna and reng must be of good quality; the reng should be powdered fine, without lumps, and should have the color of fresh green peas; the temperature of the room should be 75° Fahrenheit; a pair of gloves as a protection for the hands may be worn. For rinsing out the powder a small tub filled with warm soft water should be provided. The hair and scalp must be entirely freed from oil or other foreign substances by means of the shampoo, after which the hair should be dried thoroughly, parted along the crown of the head into two equal halves, and arranged in four or five loose braids.

To color a thick growth of hair, from ninety to one hundred and twenty grams of the powder is required. For black or dark colored hair the mixture should consist of three parts of reng with one of henna; for blonde or light hair, two parts of reng with one of henna. The henna and reng should be reduced to a smooth powder and enough water added, with constant stirring or shaking to and fro until a thin liquid results. The mixture should have the color and smell of spinach and should be so thin that it will readily flow out of a too full ladle.

Thoroughly moisten the crown of the head with the mixture, at the same time massaging it with the hand so that the solution is thoroughly rubbed in; then apply to the hanging braids by drawing them repeatedly one after

the other through the hands filled with the dye until they are completely saturated. If one prefers a black color the braids may be coiled tightly and pinned about the head on the already treated hair; if brown or still lighter color is desired the braids should not be laid on the head, but loosely fastened together with pins on the back of the head. After the braids have been packed carefully together the whole should be smoothed over with the stain, care being taken that every hair on the head is well moistened with the preparation. A thick linen cloth should be fastened about the neck as a protection against any trickling drops, and one should remain in a warm room the time necessary to produce the required color. The longer the stain lies on the hair the darker the color becomes. To obtain a beautiful gleaming black shade from three to four hours is required; for a brown color under the above conditions from two to two and one-half hours is needed. When the staining action is completed, pour at once on the head enough water to thoroughly wash out the paste, at the same time assisting the cleansing action of the water by the constant use of a wide comb. The rinsing process should be continued until the water flows clear from the hair, which will require at least a half hour's time and the use of much water. The color really obtained is best estimated after the lapse of five or six hours, or on the following morning. If the hair has been well cleansed and the color skillfully applied, a wonderfully beautiful lustre is obtained. If the hair does not show this lustre after drying, but appears dull and lifeless, the coloring is a failure, and the hair should be recolored, following the method described with the exception of the shampoo. This may be omitted unless some grease has been introduced which would make a recleansing necessary. Subsequent applications of henna and reng give much better effects than the

first application. If the hair color is pure throughout, one should use in the next treatment a weaker coloring mixture, with a somewhat less proportion of reng. After the application of henna and reng one should not use a greasy brush or comb until the color is satisfactory, or the powder is all out of the hair. Henna and reng are said to be entirely harmless and can be taken into the eyes or mouth without danger. It should be carefully noted that reng spoils easily when exposed to moisture, so it is best kept in well corked, paper wrapped flasks.

Walnut Extract.

Walnut extract obtained from the green nuts of the walnut tree has long been a favorite substance for making hair dyes. The walnut juice may be obtained from the nuts in several ways.

No. 1.

The supply of fresh green walnut shells should be thoroughly mashed and the resulting mass covered with distilled water to which one per cent of salt has been added. Stir occasionally for three days. Again cover the resulting mass with water, and heat almost to the boiling point for six hours, keeping up the supply of water which is lost by evaporation; then cool and strain through a cloth by twisting or pressure. Return the liquid thus obtained to the kettle and apply heat until three quarters are lost by evaporation; cool and add one-sixth by weight of Alcohol. Mix well and bottle.

Apply with brush and comb once weekly or as needed.

No. 2.

BROWN WALNUT HAIR STAIN.

Crush green walnuts and express the juice. For each ounce of juice add

Boric Acid 5 grains

Alcohol 1 dram

Cool, filter off and bottle for future use.

This preparation requires two or three days to "become fast."

Apply with a comb and tooth brush once weekly, or as required.

No. 3.

BROWN WALNUT HAIR OIL DYE.

R

Green Walnut Hulls..... 1½ ounces

Alum 3 drams

Olive Oil 5 ounces

Heat in water bath until water has been entirely expelled, then express, filter and perfume to suit.

Apply every two or three days, or as needed.

No. 4.

BROWN WALNUT HAIR DYE.

R

Fresh Green Walnut Shells..... 1 ounce

Powdered Alum 1 dram

Benzoated Oil 5 ounces

Oil of Rose Geranium..... 6 drops

Reduce the walnut shells and alum to a smooth paste, digest with Benzoated oil in a water bath until all the vapor has been driven off; then add the Oil of Rose Geranium. This will produce a brown shade. It should be used daily.

No. 5.

BROWN WALNUT HAIR DYE.

℞

Green Walnut Shells.....	2 ounces
Alum	2 drams
Bruise together in a mortar and allow to stand for two days; then transfer to an evaporating dish and add	
Olive Oil	3 ounces 6 drams
Stir constantly until the moisture is evaporated and the shells are dry. Cool, strain, press and add	
Oil of Bergamot.....	4 drops
Oil of Verbena.....	1 drop
Mix. Apply as needed.	

No. 6.

WALNUT HAIR OIL AND DYE.

Oils impregnated with the coloring principles of walnut shells have been recommended for dyeing the hair, thus serving as a combined oil and dye. The oil is to be applied daily, until the hair acquires a dark brown tint, then as needed.

DARK BROWN WALNUT OIL DYE.

℞

Paraffin Oil	4 ounces
Alum Powder	1 dram
Walnut Shells, dried.....	1 ounce
Alcohol	sufficient
Perfume	to suit

Moisten the shells with alcohol, add the alum and paraffin oil, heat on a sand bath for an hour; then filter, and finally add any essential oils or synthetic perfumes.

Apply daily.

No. 7.

BROWN WALNUT OIL DYE.

℞

Walnut Shells, green.....	1 ounce
Alum Powder	1 dram
Olive Oil	5 ounces
Oil of Bergamot.....	9 drops

Beat the walnut shells in a mortar with the alum; then heat with the olive oil until all moisture has dissipated, filter, allow to cool, and add the aromatic oil.

Apply daily.

No. 8.

BROWN VEGETABLE DYE.

℞

Dried Walnut Leaves.....	1 ounce
Dried Rosemary Leaves.....	1 ounce
Dried Bay Laurel Leaves.....	4 drams
Dried Lavender Flowers.....	4 drams
Oil of Rosemary.....	$\frac{1}{2}$ dram

Mix and put up in one ounce packets, wrapped in waxed paper.

Sig: Pour one pint of boiling water on each ounce package, cool and strain through muslin and add two ounces of alcohol or bay rum, and glycerine one ounce. If hair is oily omit glycerine.

Shake bottle before using, and apply with sponge to roots of hair every other day.

No. 9.

Many of the so-called "walnut dyes" are not made from walnut shells at all, but are of chemical origin. As an example we submit

R

Silver Nitrate	1 dram
Pyrogallol	4 drams
Distilled water	3 ounces
Glycerine	5 ounces

Mix. Apply as directed for Silver Nitrate dyes.

PYROGALLOL.

These Pyrogallol hair dyes are harmless and efficient.

No. 1.

R

PYROGALLOL — CHESTNUT HAIR DYE.

Pyrogallol	1 dram
Nitric Acid	10 drops
Water, enough to make.....	4 ounces
Mix. Apply as needed with a small stiff brush and comb.	

Thoroughly wash and rinse the hair, and when dry apply the dye daily with a sponge or soft cloth.

No. 2.

R

PYROGALLOL — BROWN HAIR DYE.

Pyrogallol	4 drams
Sodium Sulphite	32 grains
Alcohol	1 ounce
Water	3 ounces

Dissolve the Sodium Sulphite in the water and the Pyrogallol in the Alcohol. Mix and apply with a small brush and comb.

No. 3.

℞ PYROGALLOL — BROWN DYE.

Pyrogallol	$\frac{1}{2}$ ounce
Sodium Sulphite	$1\frac{1}{2}$ drams
Alcohol 90%	$\frac{1}{2}$ ounce
Water	3 ounces
Mix and apply as needed.	

No. 4.

℞ DARK BROWN — NON-METALLIC.

Pyrogallol	8 grains
Citric Acid	1 dram
Distilled water	4 ounces
Mix and apply.	

No. 5.

℞ NON-METALLIC BLACK DYE.

Pyrogallol	1 dram
Citric Acid	5 grains
Boro-glycerine	3 drams
Water	$3\frac{1}{2}$ ounces
Mix and dissolve, then apply.	

The hair should be washed in Soda and soft water solution in the morning before applying these dyes.

The color may be darkened or lightened by adding more or less of the Pyrogallol.

The following preparations are suitable for coloring the hair for a limited time, and are preferred by those who wish to apply them every few days. They are harmless in nature and quick in action; but they do not resist the action of soap and water.

No. 1.

BLACK OIL HAIR AND EYEBROW DYE.

R

Olive Oil	4 ounces
White Wax	2 ounces
Powdered Burnt Cork.....	1 ounce

Apply with suitable brush and comb as needed.

Heat the oil and wax together over a water bath; when melted add the cork. This dye gives a lustrous color to the hair and is absolutely harmless.

No. 2.

HARMLESS BLACK DYE FOR EYEBROWS AND HAIR.

R

Gum Arabic	1 dram
India Ink	1½ drams
Rose Water	4 ounces

Reduce the gum and ink to fine powder and add sufficient Rose water to dissolve all the granules. Then add sufficient rose water to make a four ounce solution.

This preparation gives a black color and is absolutely harmless. It should be applied as needed with a small stiff brush and comb.

CHAPTER XXIV.

INSTANTANEOUS MINERAL HAIR DYES.

Manganese.

No. 1.

LIGHT BROWN HAIR DYE.

R

Potassium Permanganate	3 ounces
Distilled water	1 quart

Free the hair from fat or oil in the manner previously described, and apply the dye with a small brush.

No. 2.

MANGANESE HAIR DYE. BLONDE. 2 BOTTLE.

Solution A.

Potassium Permanganate	80 grains
Distilled water	4 ounces

Solution B.

Sodium Hyposulphite	80 grains
Distilled water	4 ounces

Free the hair from grease by washing with a weak soda solution; then rinse thoroughly with warm water and dry with a soft towel. Apply Solution A with a soft, clean tooth brush, afterwards combing with a clean comb to evenly distribute the solution. After a short time sponge the hair with clean water, then brush with Solution B until the Manganese color is discharged.

Solution A is also used alone, the depth of color obtained varying with the frequency of application.

Iron.

No. 1.

IRON HAIR DYE.

Iron being entirely free from poisonous properties, has been used to some extent as a base for hair dyes in preference to some of the other metallic salts. We do not believe the color obtained is as lasting or satisfactory as that produced by Bismuth or Silver; but we submit the following formulas for the use of those who might prefer them.

<i>Solution A.</i>	BLACK — 2 BOTTLE.
Iron Sulphate	2½ grains
Glycerine	1½ drams
Distilled water	4 ounces

<i>Solution B.</i>	
Tannic Acid	10 grains
Gallic Acid	10 grains
Distilled water	4 ounces

Wash hair thoroughly, and brush on three consecutive days with Solution A; then apply Solution B with a fine tooth comb. Subsequently apply both liquids daily with an hour interval between the application of Solution A and Solution B, until the desired black color is produced.

No. 2.

R	BLACK — 1 BOTTLE.
Solution of Iron Acetate.....	15 minims
Pyrogallol	40 grains
Glycerine	2 drams
Alcohol	4 ounces
Mix.	

Apply once or twice daily to gradually darken the hair.

Bismuth.

Bismuth hair dyes are preferred by many as they are entirely non-poisonous and may be used freely. The objection to them is that they do not operate so quickly, and they rapidly decompose on exposure to light and air. They should always be kept in dark, well-stoppered bottles. They are also quite expensive. They are especially useful in producing a light brown or chestnut shade of hair.

No. 1.

℞

BLONDE OR BROWN DYE.

Bismuth Subnitrate	63 grains
Solution of Potassa 10%	
Citric Acid, each.....	sufficient
Glycerine	1½ ounces
Distilled or Orange Flower Water, enough	
to make	4 ounces

Mix the bismuth salt and glycerine intimately by trituration; then heat on a water bath and gradually add to it Solution of Potassa under constant stirring, until the Bismuth salt is dissolved. Then add concentrated solution of Citric Acid until only a slight alkalinity remains, and add water to make up the four fluid ounces.

This is to be applied by means of a new tooth brush and comb.

No. 2.

℞

BISMUTH DYE — BROWN.

Bismuth Citrate	1 ounce
Distilled water	4 ounces
Alcohol	6 drams

Ammonia water, enough to dissolve the residue.

Mix and apply by means of a small brush and comb.

No. 3.

DARK BROWN BISMUTH DYE.

Two Bottle.

Solution A.

Bismuth Citrate	3	drams
Alcohol	2	drams
Rose Water	1½	ounces
Distilled water	2	ounces

Add the bismuth to the alcohol, rose water and distilled water, after which sufficient water of ammonia to dissolve the residue should be added.

Solution B.

Sodium Hyposulphite	1½	ounces
Distilled water	5	ounces

At night free the hair and scalp from oil by washing, and in the morning apply solution A and let it dry. That night apply solution B. Repeat the operation if a deeper tint is desired.

No. 4.

BISMUTH HAIR DYE — BLACK.

R

Bismuth Citrate	1	ounce
Rose water	2	ounces
Distilled water	2	ounces
Alcohol	½	ounce
Ammonia water, enough to make a clear solution.		

Apply with a small brush once daily, till the desired shade is obtained. Repeat as needed.

No. 5.

BISMUTH HAIR DYE — BLACK.

Two Bottle.

Solution A.

Bismuth Citrate	1 ounce
Alcohol	5 drams
Rose Water	2 ounces
Distilled water	2 ounces
Ammonia Water, to dissolve the precipitate.	

Apply in the morning.

Solution B.

Sodium Hyposulphite	12 drams
Distilled water	4 ounces

Apply thoroughly in the evening.

Use a small stiff brush and repeat the operation until the desired shade is obtained; then as needed.

Quicksilver Dyes.

Dyes containing Mercury are so poisonous that they should not be used on the living hair. They are sometimes used in coloring false hair; but even in this field they have objectionable features and offer no special advantage over other, and less harmful dyes.

Silver Nitrate used either alone or in combination, has a wider range of usefulness than any other dye. Colors ranging in shade from flaxen to raven's wing black may be obtained. The Dye is easily prepared and previous experience with it is not so necessary to obtain satisfactory results as in the case of many other dyes.

Stains of the skin which may result during its application can be removed before the dye is "set" by the use of a little oil or cold cream; or if the dye has set, lemon juice and pumice stone will cleanse the skin.

Much has been written concerning the harmful effects of Nitrate of Silver when applied to the hair and scalp; yet when we consider the extent to which Silver Nitrate is used, not only upon the mucous membranes of the body, but also when instilled directly into the eye itself, harm resulting from its use upon the scalp has been very much exaggerated. To our personal knowledge many thousand prescriptions for Silver dyes have been made and applied without one harmful consequence resulting. *As a matter of fact, Silver dyes are but very slightly absorbed by the skin, and may be regarded as not harmful when applied to a healthy scalp if a standard preparation is used, and reasonable precautions are taken in applying them.*

The dye may be applied by the use of a small, clean tooth brush or nail brush and a clean rubber comb, in the following manner: Part the hair evenly in the center and lifting a small strand of hair from the scalp with a comb, apply the dye sparingly, beginning at the roots and working toward the ends of the hair.

Exposure to bright light will hasten the setting of the dye. Sulphuret of Potash—from twenty grains to two drams to the ounce of distilled water—will set it instantly; or washing the hair on the following day in pure, warm soft water, to which a little salt has been added will serve the same purpose.

All oil and fat should be removed from the hair before the application, and the excess dye afterwards, by washing in the manner already described.

No. 1.

SILVER HAIR DYE — FLAXEN.

Two Bottle.

Solution A.

Nitrate of Silver.....	160 grains
Subnitrate of Bismuth	320 grains
Acetate of Iron.....	160 grains
Distilled Water	3 ounces 3 drams

Solution B.

Sulphite of Potassium.....	3 ounces
Distilled Water	3 ounces

Mix the acetate of iron with the water, then add the silver and bismuth. Apply solution B to the hair. In two hours apply lightly solution A.

No. 2.

BLONDE HAIR DYE.

Two Bottle.

Solution A.

Silver Nitrate	1½ drams
Bismuth Subnitrate	3 drams
Water	2 ounces

Solution B.

Potassium di-Sulphide	1 ounce
Water	1 ounce

Remove all oil from the hair as previously directed, dry, and apply Solution B. Dry, and in two hours apply Solution A.

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No. 3.

BLONDE HAIR DYE.

One Bottle.

R

Silver Nitrate	20 grains
Copper Sulphate	30 grains
Citric Acid	40 grains
Ammonia Water	enough
Distilled Water	4 ounces

Dissolve the silver nitrate, copper sulphate and citric acid in distilled water; then carefully add the ammonia water until the precipitate which has formed has been dissolved.

Apply as directed.

No. 4.

CHESTNUT HAIR DYE.

One Bottle.

R

Crystals Silver Nitrate	3½ drams
Nitrate of Copper	20 grains
Distilled Water	3½ ounces
Ammonia Water	sufficient

Dissolve the nitrate of silver and the nitrate of copper in distilled water, and add cautiously the water of ammonia until the precipitate is dissolved. This preparation will dye the hair black. Various shades from black to light brown may be secured by diluting the solution.

Apply as directed.

No. 5.

SILVER DYE — DARK BROWN.

One Bottle.

℞

Silver Nitrate Crystals.....	2 drams
Gum Arabic	2 drams
Distilled Water	4 ounces
Mix. Apply as directed.	

No. 6.

In preparing silver dyes an excess of Ammonia should be avoided as this tends to produce a brownish dye.

BROWN OR BLACK.

Two Bottle.

Solution A.

Silver Nitrate	4 drams
Ammonia Water	sufficient
Distilled Water, to make.....	4 ounces

Dissolve the Silver Nitrate in a portion of water; gradually add the Ammonia water, stirring constantly until the brown turbidity produced has vanished and the liquid appears colorless.

Solution B.

Pyrogallol	1 dram
Alcohol	4 drams
Distilled Water, to make.....	4 ounces
Mix and dissolve.	

Apply the Pyrogallol Solution to the hair with a tooth brush, taking care not to wet the scalp. When partially dry apply the silver solution in the same manner, using another brush.

No. 7.

BROWN OR BLACK.

Two Bottle.

Solution A.

Silver Nitrate	4	drams
Copper Nitrate	24	grains
Ammonia Water		sufficient
Distilled Water	4	ounces

Dissolve the two salts in the water, add ammonia water to redissolve the precipitate first formed.

Solution B.

Pyrogallol	2	drams
Acetic Acid	6	drams
Alcohol	4½	ounces

Apply the Pyrogallol Solution to the hair with a tooth brush, taking care not to wet the scalp. When partially dry apply the silver solution in the same manner using another brush.

This makes a black dye. For a brown dye decrease the amount of Pyrogallol; as little as one-half grain to the fluid dram is sometimes used. Sometimes the Acetic Acid is omitted, and in most of the commercial hair dyes diluted alcohol is used as a solvent of the acid. Copper Sulphate might possibly be substituted for the nitrate. The use of copper salt is to avoid the dull reddish tint imparted to the hair by the use of silver nitrate alone.

No. 8.

BROWN OR BLACK.

R A Good One Bottle Dye.

Silver Nitrate Crystals..... 75 grains
Stronger water of Ammonia, enough to dis-
solve the precipitate formed, and add
Orange Flower Water..... $\frac{1}{2}$ ounce
Glycerine $1\frac{1}{2}$ drams
Distilled water, enough to make..... 4 ounces
Mix.

Cleanse the hair, dry and apply night and morning till the proper color is obtained; then as needed.

Diluted with rain water this preparation will produce a brown stain.

No. 9.

BROWN OR BLACK SILVER DYE.

One Bottle.

Wash the hair with soap and water, and after drying apply from the roots to the ends of the hair with a soft tooth brush a 2% solution of Pyrogallol in distilled water, then dry the hair and apply:

R

Silver Nitrate 18 grains
Distilled water 3 ounces
Water of Ammonia, enough to make a clear solution.

This must be applied every three or four weeks.

No. 10.

BLACK SILVER DYE.

Solution A.

Two Bottle.

Silver Nitrate	160 grains
Ammonia Water	6 drams
Sodium Carbonate.....	1 dram
Water	2 ounces 6 drams

Solution B.

Pyrogallol	40 grains
Water	3 ounces
Alcohol	1 ounce

Dissolve the silver nitrate in the water, and add carefully the ammonia water until the precipitate formed is dissolved; then add enough water to make twelve ounces and allow to stand for a few days.

To APPLY: After the oil has been removed from the hair or whiskers by the method described, apply solution B and permit to dry. Apply solution A, dry the hair thoroughly, and wash with a good soap and soft water to remove the superfluous dye, after which the hair should be again dried.

No. 11.

BROWN OR BLACK SILVER DYE.

R

One Bottle.

Nitrate of Silver	2 drams
Nitrate of Copper	82 grains
Distilled water	3½ ounces

Dissolve and add Water of Ammonia, enough to dissolve the precipitate formed.

Apply as directed. This solution will produce a very black color. A lighter shade may be produced by diluting the solution.

No. 12.

SILVER NITRATE OINTMENT DYE.

R

Silver Nitrate	38 grains
Oil of Rose Geranium.....	8 drops
Vaseline	4 ounces

Mix. Apply as needed.

This should be applied every two or three weeks.

Synthetic Hair Dyes.

As a rule most of the synthetic hair dyes irritate the skin and produce eczema or other skin inflammations. They are used extensively for dyeing furs and false hair. They possess the advantage of resisting the effects of light and water. One of the chemicals most widely known is Paraphenylenediamine. According to a German patent the entire formula is as follows:

Solution A.

Paraphenylenediamine	2 parts
Caustic Soda	14 parts
Water	1000 parts

Solution B.

Hydrogen Dioxide	3 parts
Water	100 parts

Another preparation widely extolled is known as Aureol, also a German preparation. This preparation is composed of:

Metol	10 parts
Amidophenol Hydrochloride.....	3 parts
Monamidophenylamine	6 parts
Sodium Sulphite	5 parts
Dilute alcohol, to make.....	1000 parts
Dissolve the sulphite in the alcohol and all the other ingredients.	

In using this dye the hair should first be washed with a soda solution or soap, rinsed thoroughly with clear water, and allowed to dry partially; then with a fine tooth comb apply this liquid previously mixed with an equal proportion of hydrogen peroxide. In the course of two or three hours the hair will assume a dark brown color which can be increased to black by repeated applications of the dye.

CHAPTER XXV.

SCIENTIFIC APPLICATION OF HAIR DYE.

The application of a dye is comparatively easy if the proper method is understood. It may be applied to one's own hair with the aid of mirrors properly arranged, although in most cases somewhat better results may be secured if the application is made by an assistant. The room chosen should be well lighted, and the neck and shoulders protected by a cloth.

Separate the hair into four equal sections by partings from center of forehead to nape of neck and from ear to ear. Pour a small quantity of the dye into a saucer and apply to the front hair first, as the hair in front is more difficult to color.

Divide into half inch sections, and with the aid of a hard rubber comb and a small stiff brush, apply the dye to the roots only, or to the entire hair shaft, as the case may require. The hair strands should be held in such a manner that the dye will flow toward the scalp, as otherwise the hair points may be dyed a deeper color than the hair near the head. Some operators prefer to brush the dye into the hair by movements directed toward the scalp, while others brush toward the point. Constant combing during the application is of great assistance in obtaining an even distribution of the dye. Upon completion of the dyeing process, the hair should be dried and retouched if necessary, after which it should again be dried and washed.

Suggestions.

Spare no pains in the preparation of the hair before the dye is applied. Remove all oil or foreign matter by a shampoo, to which one per cent of Soda — one teaspoonful to a pint on an average — may be added. Fine hair or dry hair requires less soda in the shampoo than coarse or greasy hair.

Wash out all traces of the shampoo with tepid water, and to the final rinse water it is sometimes of advantage to add Acetic acid — two teaspoonfuls to a quart. Four tablespoonfuls of vinegar to a quart of water may be used if the Acetic acid is not available. If the water used in the shampoo contains even a trace of lime, the latter may be deposited on the hair shaft and prevent the proper absorption of the dye. After the dyeing process has been completed the final shampoo should be given to remove any excess of dye in order that the scalp may be cleansed, and proper gloss restored to the hair.

Hair can contain only one substance at a time; oil, moisture, or coloring matter; therefore, if the hair takes the coloring matter properly these elements should be removed.

We can only dye that part of the hair which is outside of the scalp, and as the rate of hair growth is three-eighths to three-quarters of an inch a month, this new growth must from time to time be tinted the same color as the rest of the hair.

The theory of hair dyeing is based upon the assumption that a true dye not only colors the outside of the hair shaft, but penetrates it through and through; and in those rare instances when it is desired to obtain a lighter shade than the color of the hair to be dyed, the darker color must first be removed, else the color of the dye will be modified

by the natural darker coloring matter which the hair possesses.

Should it be desired to obtain by the employment of a dye a lighter shade than the original color of the hair, or if much gray hair is present, the hair may be bleached with peroxide, and a light color applied to the gray hair; if it is found difficult to make the gray hair take the lighter color, it may be colored to match the original darker shade, after which all of the hair may be decolorized until the shade required is obtained. This method is usually the most satisfactory.

If several shades of hair are present, the safe plan is to take a small amount of hair of each shade, apply the dye, and when good results are obtained proceed with the dyeing process; or it may be advisable to secure the services of a competent operator for the first application, after which the subsequent retouching necessary to maintain the proper shade is much more easily performed.

When desired to apply a dye to the hair roots alone, or to a small amount of gray hair found on the temples, the oil may be removed by a thorough cleansing with pure Spirits of Wine. A little oil applied to the surrounding hair will prevent the dye from spreading.

To change the shade of hair which has been previously dyed, all traces of former coloring agents, especially those of Silver or Lead, should first be removed by decolorizing with caution.

Persons whose scalp is unhealthy from any cause, or who have a predisposition to eczema or skin disease should exercise caution in using a hair bleach or dye. To determine whether or not the dye to be used will cause scalp irritation, a small quantity may be applied to the skin and left over night; if no bad effects result it is said the dye may be used with safety.

Practically all hair dyes should be sparingly applied, and any resulting scalp stain removed by the use of a shampoo, by the application of oil, or lemon juice and pumice stone.

Hair should not be curled or waved the same day a dye has been applied.

The great majority of manufactured hair dyes consist of mineral compounds rather than vegetable products, notwithstanding the claims of the manufacturers to the contrary; since practically all vegetable pigments fade under the influence of light and oxygen.

CHAPTER XXVI.

THE FINGER AND TOE NAILS.

The Finger Nails.

The hand may be ever so well formed and ever so well kept, yet without carefully tended nails will present an unsightly appearance. The possession of beautiful nails demands thought and care not only in all details which are necessary to secure absolute cleanliness, but also in securing that harmony of shape and color which is the indication of refinement and culture. Soiled, neglected nails are always in evidence, and create a most unfavorable impression in the realms of society or the domain of business. It matters not whether the nails are short, soiled, or chewed off, with broadened ugly finger ends, indicating a total lack of care as well as bespeaking slothfulness and careless personal habits, or whether they project far over the finger ends and are trimmed into a sharp point serving as symbols of the idler or fop, — each is offensive to good taste. In the past the cosmetics of the nails was considered in the light of a luxury to be indulged in only by the rich and idle, but today their care is a matter of necessity. The modern cosmetics of the nails have been rendered simple and efficient through our increased knowledge of this anatomy and physiology of the latter, together with the refinement and greater variety of needed instruments, and the more scientific medicinal preparations available to promote normal nail health and growth; and through the prevention or cure of unsightly diseased conditions which might wholly or in part destroy the nail, or

permanently mar its beauty. There is no mystery about the care of the nails — indeed the subject is a very simple one — and beautiful nails may be secured as the result of but little thought and care.

Anatomy of the Nails.

The nails are flattened, elastic plates of a horny texture, which cover the Dorsal surface of the terminal phalanges of the fingers and toes. They are peculiar modifications of the epidermis, or false skin, and are composed of closely united plates of horny epithelial cells. They are derived principally from the Stratum Lucidum, one of the layers of the false skin, and are therefore a peculiar modification of the skin itself.

Each nail is convex on its outer surface and concave within, and exists as a large exposed body which ends anteriorly in the projecting *free edge*, and posteriorly as the *root*, which extends some considerable distance beneath the over-hanging upper margin of the groove or *nail fold*; at the sides the borders of the nail are covered by the *nail walls*. That part of the finger upon which the nail rests has a rich nerve and blood supply, and is called the *nail bed*; the posterior part of which, covered by the root of the nail, is called the *matrix*. The posterior part of the nail is usually lighter in color, and extends beyond the nail fold as a pale, projecting, convex area called the *lunula*. The nail is attached throughout its entire extent to the nail bed, but the transformation of the deeper cells into the horny plates of the nail takes place only over the matrix, each particle of newly formed nail substance pushing before it the older, already existing part of the nail at the average rate of one thirty-second part of an inch per week.

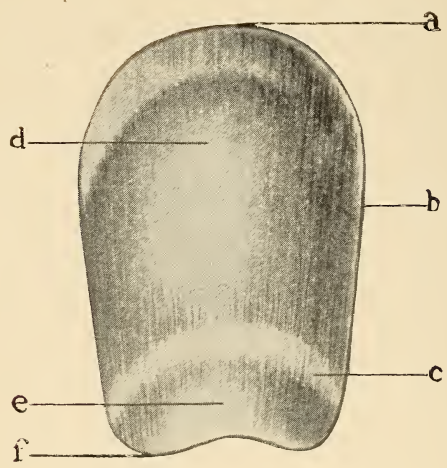
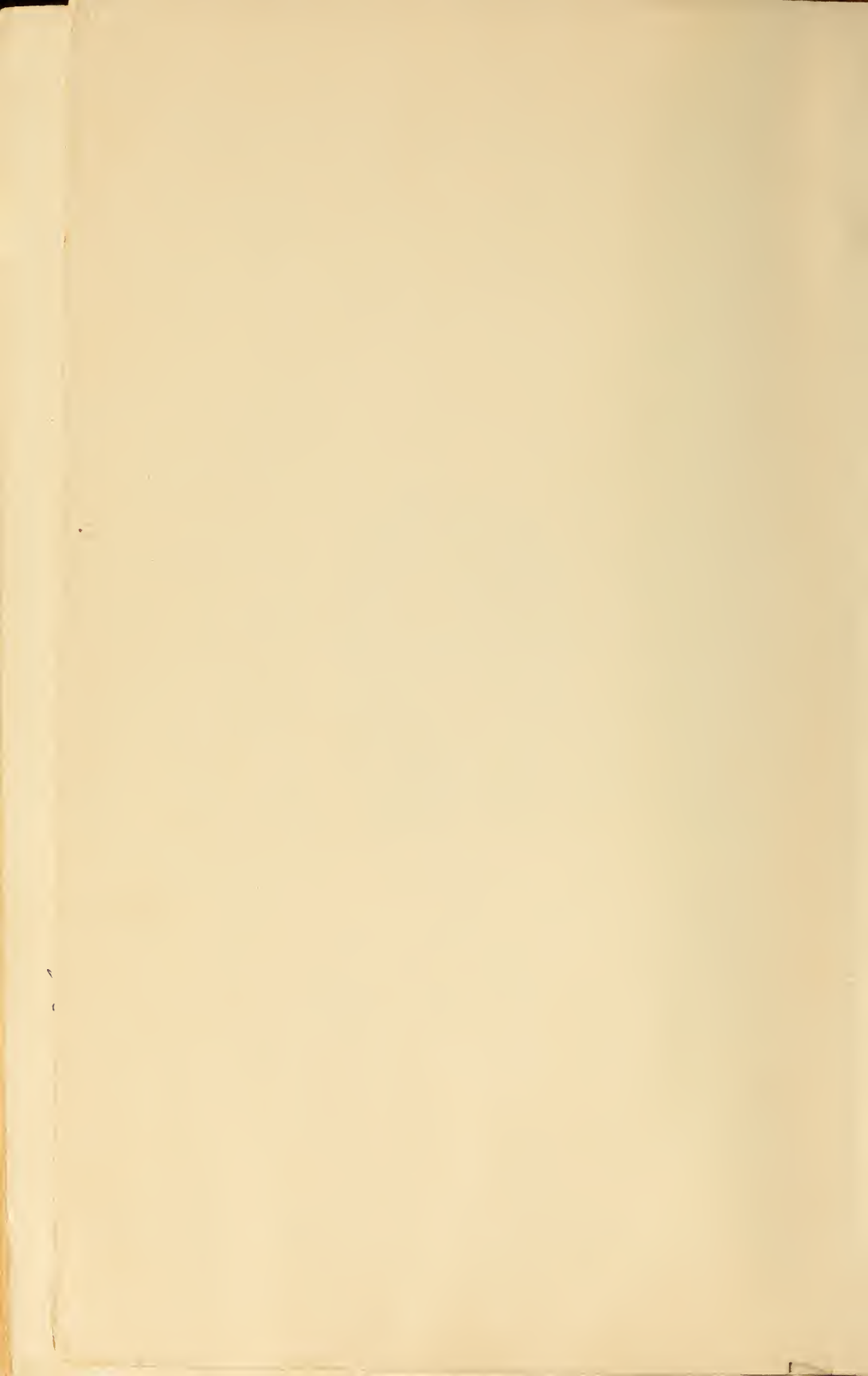


PLATE IV.

**FINGER NAIL COMPLETELY ISOLATED. SEEN FROM
CONVEX SIDE.**

- a. Free edge of nail.
- b. Lateral margin of nail.
- c. Lunula.
- d. Body of the nail.
- e. Nail root.
- f. concealed margin of the nail.



The Nail Bed is composed of the Corium, or true skin, and that layer of the Epidermis, or false skin, which corresponds to the Stratum Malpighii.

The Corium consists of bundles of fibro elastic tissue arranged parallel to the long axis of the finger; the longitudinal bundles being supplemented by vertical bundles extending from the superficial layer to the Periosteum, or the membrane which surrounds the bone.

The Malpighian Layer serves to fill up the inequalities between the papillae and the ridges of the Corium. *The nail fold* and the *nail wall* are of the same general structure as the skin. The nail plate itself has no blood or nerve supply; but it may be noted that each digital nerve gives an especial branch of large size to the pulp of the finger, and this explains the intense pain felt when a foreign body is thrust under the nail

The Color of the Nails.

The color of the nails must harmonize with anatomic conditions. At the base of the nail the Lunula should be a delicate pink-white shade; above the nail bed, pink-white; and along the free rim, which should form a gentle curve, a dim white.

The Shape of the Nails.

The shape and length of the nail should conform to the dictates of fashion and the appropriate demands of business. Extremely long or short nails, or very pointed nails, are no longer considered proper, for extreme length of the finger nails is unsightly, as all extremes are apt to be, and in addition they are impractical and a hindrance to the ordinary use of the hand. Conversely, the

nails should not be worn too short as they cannot fulfill their purpose which lies not only in giving strength to the sensitive finger ends in manual labor, but also in enabling one to perform a thousand little mechanical acts such as the picking up of a pin. Cosmetically they shorten the fingers and impair their grace and symmetry. The nail should project in a straight line until it leaves its side groove, the free edge extending for a short distance beyond the finger tip. The nails may be worn slightly pointed or with a rounding edge which should correspond to the curved line behind. Nails that are well cared for and trimmed according to this principle, create the impression of extraordinary beauty; the nail itself gaining much in cosmetic appearance, while the finger points appear longer, and the entire hand more slender and symmetrical.

Shortening the Nails.

The frequency of cutting the nails is necessarily dependent upon the requirements of maintaining their proper length. While the average rate of growth is one thirty-second of an inch per week, this rate of growth not only varies in different individuals and in the hands and feet, but also in the same person at various times of life and in different degrees of health.

The nails should never be cut at the corners and sides more than in the middle in order that the sides may be short, as this practice will result in an ingrowing of the nails.

The instrument selected for trimming the nails depends largely upon one's preference and the circumstances under which the nails are trimmed. The professional manicurists almost invariably make use of the scissors, while the individuals who trim their own nails may prefer



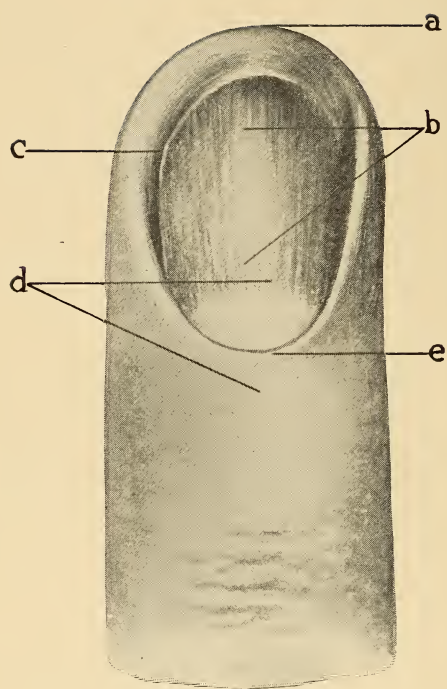


PLATE V.

MATRIX OF THE NAIL, OR NAIL BED.

- a. Finger tip.
- b. Nail bed.
- c. Nail wall.
- d. Matrix of the nail; partially covered by the nail roof, or nail fold.
- e. Nail fold.

to use a knife. Some eminent German authorities give the preference to a sharp knife, but if this is not available they advise soaking the finger tips in hot, soapy water until the nails are sufficiently softened, and then cutting with a pair of sharp scissors. In my opinion the choice of instruments is not so important if the shortening be properly done. The objection to the use of the knife is the tendency to undue shortening of the nails, especially at the corners; while the fault with the scissors lies in the tearing, splitting effect upon the nail, which result is especially pronounced if the scissors are dull or if the nail is dry or brittle.

Trimming.

To prepare for trimming, soften finger nails by a thorough soaking in warm soapy water, or in warm oil if preferred. Then trim from center to side to convenient length and finish the operation with a file.

Filing.

File nail from side to center. After filing soak finger tips in an antiseptic solution which will also serve as a bleaching agent and soften the cuticle; for which purpose the following preparation will be found efficient:

R

Hydrogen Peroxide	2 ounces
Rose Water	1 ounce
Benzoin ,.....	9 drops
Use as directed.	

Cleansing the Nails.

The cleanliness of the nails is an important factor in the care of the hands, since they cannot pass as clean when the nails are soiled. This is best accomplished by

washing, with the aid of a nail brush. Should something more be required a small pointed stick of orange wood is best. The constant use of a knife or file to assist in cleansing the under surface of the nail end will make it ragged and rough, while the persistent use of the orange stick will leave the surface smooth and afford less opportunity for foreign matter to adhere. Remove any stain from underneath the nail by applying a bleach with the orange wood stick.

Hang Nails.

In uncared for nails one finds a small, thin membrane creeping out from the root over the face of the nail, which gradually becomes thinner as it extends and which serves to obscure the lunula. On both sides of the nail this little membrane assumes the form of a peak which loosens from the side nail grooves and forms the undesirable hang nail.

Hang nails are only found upon cosmetically neglected or improperly treated nails, and not only result in impairing their beauty, but are also the source of many infectious diseases.

Treatment.

Loosen hang nails with cuticle knife or orange stick and cut them off as close to their roots as possible. If the hang nail is thoroughly loosened and cut close to the root it will not reappear; otherwise it will continue to grow and prove annoying. After removal, a nail cream or ointment may be applied.

Treating the Cuticle.

The cuticle around the sides, and at the base of the nail will, if uncared for, grow forward over the base of the nail and partially or wholly obscure the Lunula. The effect is unsightly and is due to neglect. To prevent this

condition, massage of the base of the nail nightly with cold cream will keep the cuticle loosened and in its proper position. The best movement is that used in putting on a pair of gloves — simply a smoothing and working back of the cuticle.

Treatment for Dry, Brittle Nails.

The nails should be nourished and softened by applying a good cold cream to the nails and the skin surrounding them. Once or twice during the day the finger tips should be held in warm olive oil. The following preparation should be applied at night and loose, clean gloves worn.

Cream for the Nails.

R

Spermaceti	1½ drams
White Wax	1½ drams
Oil of Sweet Almonds.....	1½ ounces
Alkanet root	1 dram
Oil of Rose Geranium.....	15 drops

Melt the first four ingredients, strain, beat until nearly cold; then add the oil of rose geranium. Pour into wide mouthed porcelain bottles or jars.

Bleaching the Hands.

The skin of the hands may be whitened if desired, in the following manner: Thoroughly wash hands and forearms with warm soft water and soap, dry carefully, and apply the following preparation which makes a most efficient whitening paste, especially adapted for ladies' use:

R

Powdered white castile soap.....	4 ounces
Powdered Orris Root	1 ounce
Corn Starch	1½ drams
Glycerine	1½ ounces
Oil of Lemon	45 minims

Mix thoroughly the glycerine and starch, and heat in a porcelain vessel until a translucent jelly is formed; then add other ingredients. The paste may be thinned if desired by the addition of glycerine or water.

DIRECTIONS: Apply at bed hour. Cotton gloves may be worn during the night.

Molding.

Molding of the hands and fingers is best attained by means of massage. Apply a good massage cream and massage all joints of fingers and thumb with a twisting movement, going over fingers in this manner several times, and pressing finger tips to a point to make them more tapering. This will reduce the size of the joints and make the muscles more pliable. Finish treatment with a vigorous slapping to remove the superfluous fat from a hand that is too plump, and to strengthen and fill out the muscles of one too thin. Remove the massage cream which has been applied at beginning of the treatment, by means of a soft towel, and apply any toilet powder desired.

The Manicure.

A complete set of instruments used for the manicure embrace the following:

1. One thin, very flexible file.
2. One pair of cuticle scissors, with *small* curved blades and sharp points.
3. Two orange sticks; one flat at the end, used to loosen and push back the cuticle; one trimmed to a point, around which a small amount of medicated cotton is wrapped, with which the free edge of the nail is cleaned.

4. One cuticle blade, *not* extremely sharp, with which to remove the white membrane that in neglected nails clings to the base and obscures the Lunula.
5. One small brush after the fashion of a child's tooth brush with which to brush away nail dust or any tiny particles of cuticle or membrane that have been loosened.
6. An emery board six inches long, having a fine and a coarse side with which to smooth the nails after the initial filing or trimming.
7. Small jar of powdered pumice stone and French chalk, to be used in smoothing a roughened nail surface.
8. Small jar of any good cold cream to be applied on the cotton-wrapped point of the orange stick in working back the cuticle.
9. Two buffers; one of small size and covered with chamois with which the polishing powders and creams are first applied, and which is used for the first polishing; the second, larger, and covered with chamois or leather, very soft and padded and scrupulously clean, with which to polish the nails after they have been washed.

To Manicure the Nails Properly.

First, with the long, flexible file reduce the nail to the desired length and shape, moving the file swiftly from sides to center of nail. Then immerse the nails in a bowl of warm water to which enough good liquid soap has been added to make it the consistency of thin syrup, allowing them to remain in the water five minutes (prolonged soaking renders the cuticle too soft). Dry the fingers, and with the flattened end of an orange stick dipped in cold cream, gently loosen and push back the adherent cuticle

until it is entirely free from the nail surface. Upon nails that are not regularly cared for it is sometimes necessary to use the cuticle scissors in removing small torn particles; but avoid cutting the cuticle when possible, as hang nails, the result of improper trimming, may result. Now with the dull-bladed cuticle knife remove all adhering white membrane around the base of the nail, being careful not to cut or mar its surface. In nails that have been neglected the Lunula or half moon will not at first appear; but after two or three manicurings it is bound to do so, if the cuticle is properly pressed back and the white scaly membrane is removed. Always use plenty of cold cream upon the cuticle blade and the nails. Next, with a pointed orange stick wrapped with cotton and dipped in peroxide remove all particles of dirt adhering to the free edge of the nail, being careful not to penetrate the underlying skin or flesh. Do not permit the nail surface to be scraped with a steel instrument, as unsightly furrows will result; if these are present such scraping will increase them. With the finer side of an emery board gently file away particles of nail that the steel file and the soaking in hot water have not removed. Now with the small brush dip lightly into the pumice and prepared chalk, and brush the nail surface softly, four to six strokes to each nail.

Wash the hand and nails, using a nail brush and soap, thus removing all foreign matter. Dry the hand and nails thoroughly and with the tip of the finger apply a small amount of the nail tint or polish. If in liquid form it is best to use a polishing powder in connection with it, this to be applied to the buffer instead of the nail. With the small chamois buffer polish the nails by moving it swiftly back and forth, but avoid any burning sensation caused by excessive friction. Again wash the nails thoroughly, and dry. Now give them a careful overlooking

and remove with scissors or orange stick any clinging particles. Finish by polishing the nail with the larger chamois or leather buffer, or if preferred, with the fleshy part of the palm below the base of the thumb, as this will give a more brilliant and lasting lustre than the polish given with a buffer.

Daily attention is required if the nails are to be kept in perfect condition, but this does not imply a thorough manicuring, nor would such be advisable. Too frequent polishing is as bad as too frequent paring since it has a tendency to make the nails thin and weak, thereby taking away the support from the finger tips and destroying the slender shape of the finger ends. It is well to give the nails a few minutes care each day; pushing back the cuticle with the orange stick, apply a little cold cream to the base of the nail, remove any particles of foreign matter from underneath the free edge, and use the buffer or palm to produce the desired polish. The resulting effect fully repays one for the time so spent.

Cosmetic preparations intended for the care and preservation of the nails are demanded by good taste and are of universal use. A nail ointment, polishing powder, or nail bleach should be free from alkali if the best results are to be obtained.

There are many preparations on the market, some of which are more or less injurious to the nails, rendering them extremely brittle and prone to easy splitting and breaking. The following formulae are for preparations that will satisfy every demand of elegance, efficiency and harmlessness.

Nail Bleaches.

The juice of a lemon combined with a little salt makes a good bleach in the absence of a specific preparation.

No. 1.

℞ OXALIC ACID NAIL BLEACH.

Oxalic Acid	1 dram
Rose Water	2 ounces

Apply to nails with friction by means of soft leather or flannel.

No. 2.

℞ CITRIC ACID NAIL BLEACH.

Citric Acid	1 dram
Rose Water	2 ounces

Apply to nails with friction by means of soft leather or flannel.

No. 3.

℞ ACETIC ACID NAIL BLEACH.

Acetic Acid	1 dram
Rose Water	2 ounces

Apply to nails with friction by means of soft leather or flannel.

No. 4.

℞ TARTARIC ACID NAIL BLEACH.

Tartaric Acid	1 dram
Tincture of Myrrh.....	1 dram
Distilled water enough to make.....	2 ounces

Dissolve the acid in the water, add the other ingredients and strain. Dip the nails in this solution, wipe nearly dry and polish with chamois.

No. 5.

℞

Sodium Perborate 2 ounces

Mix one teaspoonful in one ounce of water and apply solution to finger nails with nail brush, then dry and polish. This is a most efficient cleansing and bleaching agent.

Nail Polishes.

No. 1.

NAIL POLISH (POWDER).

℞

Tin Oxide 1½ ounces
 Carmine 7½ grains
 Oil Bergamot 4 minims
 Oil Lavender 4 minims
 Mix.

Apply powder to nail and polish with buffer.

No. 2.

NAIL POLISH (POWDER).

A superlative nail polish is prepared as follows:

℞

Putty powder 2 ounces
 Sodium Perborate 1 dram
 Carmine 20 grains
 Perfume to suit

Triturate the putty powder and carmine, then add the other ingredients.

Apply to nails and polish with buffer.

No. 3.

℞ NAIL POLISH (PASTE).

White Wax	3	drams
Oil Sweet Almonds	3	drams
Carmine	45	grains
Powdered Talcum	40	grains
Mix.		

Apply to nails and polish with buffer.

No. 4.

℞ NAIL POLISH (WATER).

Distilled Water	2	ounces
Alcohol	1 $\frac{2}{3}$	ounces
Oxide of Tin	2 $\frac{1}{2}$	drams
Carmine	15	grains
Mix.		

Apply to nails and polish with buffer.

No. 5.

℞ NAIL POLISH (WATER).

Distilled Water.....	5	ounces
Sulphuric acid	2 $\frac{1}{2}$	drams
Tinct. Benzoin	75	minims
Citric Acid	75	grains
Mix and strain.		

Apply to nails by means of a soft leather or flannel, and polish.

No. 1.

℞ NAIL ENAMEL.

Paraffin wax	1	dram
Chloroform	2	ounces
Oil of Rose Geranium.....	4	drops
Mix.		

Apply the enamel to nails with chamois.

Absence of Nail Plates.

When through accident or disease the nail plate has been permanently lost, efforts have been made to restore the cosmetic appearance of the finger by supplying an artificial nail. Artificial nails are usually made of celluloid or ivory, but on account of the difficulty of securely fastening the rigid plates upon the nail bed this procedure has not met with much success. In any event celluloid plates are not recommended on account of their inflammable nature.

Warped Nails and Deviations From the Normal Positions.

This condition is due solely to accident or disease, and relief should be expected only from the qualified physician or surgeon who is competent through special training to remedy the condition.

Discoloration of the Nail Plates.

Discolorations of the nail may be temporary or permanent, and may occur as the result of artificial stains locally applied, as the result of medicine taken internally, or as a consequence of disease or injury. Externally applied, pigments do not penetrate deeply into the horn substance, but the continuous application to the nails of stains may result in a discoloration which is difficult to remove, especially if some of the stain has found entrance into the nail bed. Stains of this nature may be removed through the use of bleaching agents, or through thoroughly scrubbing the nails, or by means of sandpaper or file.

The discoloration of the nails due to the effects of medicine internally administered, such as the deposits found about the nails as a result of the administration of

the Silver Salts, can be corrected only through the withdrawal of the offending drugs, together with the adoption of proper means to hasten their elimination. The correction of discolorations due to disease depends primarily upon the removal of the cause.

White Spots in the Nail.

Under the caption of discoloration of the nails we include the variation in color caused by the presence of white spots or streaks, which range in size from small spots or lines, to areas so large as to cover the entire nail plate. The white spots are caused by a collection of small air bubbles in the nail plate between the transparent nail cells, and are usually found among people who make no attempt to care for the nails, and among those who take improper care of the nails. Injury inflicted by the careless pushing back of the nail epidermis is a frequent cause of white spots, although in rare instances the entrance of air between the cells of the plate is caused by disease. The white spots are formed in the soft part of the nail plate immediately over the matrix, and their progress toward the free edge of the nail is due to nail growth. They can be prevented by adopting scientific measures for the care of the nails, and by the cure of any constitutional or local disease, if disease is the cause.

Treatment.

White spots can be eradicated only through such trimming as is made possible by the growth of the nails; but thorough polishing will serve to render their presence less noticeable.

Apparent discolorations due to the presence of blood under the nail, as the result of accident, are usually absorbed, are temporary in nature, and require no treatment.

Under discoloration of the nails we do not include those cases of dark pigmentation of the lunula which is a characteristic of the negro race. An individual belonging to a dark pigmented race does not possess the light colored area at the base of the nail which is a characteristic of those who are of the white race, and by this sign an individual of "white blood" whose skin has become dark through exposure to the elements, or a colored man whose skin has become light through protection from the elements, can be differentiated one from the other.

Softening of the Nail Plates.

Softening of the nail plate is frequently met with in young girls. It usually accompanies or is the result of lowered vitality, and is marked by excessive perspiration of the hands. This condition may result also from the effects of an eczema, or from the action of soap or lye.

Treatment.

Iron in an easily assimilated form should be prescribed to correct the anaemia. For the excessive sweating the local application of Tincture of Belladonna either diluted or full strength is the best treatment. If a powder is desired the following will be found valuable:

R

Salicylic Acid	20 grains
Zinc Oxide	1 ounce
Mix.	

Apply as a dusting powder.

Furrows of the Nail Plates.

Furrows are frequently found extending throughout the length or across the breadth of the nail plate. They

may be so shallow as to be hardly noticeable, or may penetrate deep into the substance of the nail; they may be found singly or arranged in rows; and may be caused by a variety of conditions, such as mental overwork, or the result of fevers with a consequent disturbance of nail nutrition. The length furrows appear almost universally on the nails of old people.

Treatment.

Since the transverse furrows progress as a result of nail growth toward the end of the nail, they will be eventually removed by the trimming process. If their presence is caused by local disease the disease should be corrected. The longitudinal furrows cannot be removed by trimming, but the appearance of the nails can be vastly improved by thoroughly polishing, which will render the furrows much less apparent.

Biting of the Nails.

Biting the nails is a morbid habit frequently practiced by anæmic and nervous children, and sometimes by adults of both sexes. It is said that nail biters are often poor scholars, which condition may be explained by an existing nervous or other unhealthy condition. If the habit is firmly established it is unconsciously indulged in. The habit of biting the nails, if persistently followed, results in misshapen fingers, with club shaped ends, and is accompanied by a real shortening of the fingers.

Treatment.

A careful examination of the bowel secretions of children for worms should never be omitted, and all existing causes of ill health should be corrected. Locally a solution of quinine dissolved in Acetone in the proportion of one

to ten, or some equally harmless medicinal preparation of a bitter nature, should be applied to the finger tips. This failing, gloves stitched about the wrist should be worn constantly until the habit is corrected.

Eczema of the Nails.

Eczema of the nails usually begins upon the skin of the fingers and extends to the nail organs, or it may be localized on the finger nails. It results in a more or less severe inflammation of the nail walls; and the nail plate may loosen, with the formation of a thin, watery secretion. The disease may be confined to one nail, or several nails may be involved; and unless cured, result in various defects of growth and color.

Treatment.

The fingers should be soaked for half an hour in hot water to which soap or soda has been added, and the following preparation applied locally:

Rx

Anthrasol	5	drams
Salicylic Acid	2½	drams
Olive Oil	12½	drams
Mix.		

Apply locally.

Diseases of the Nail Epidermis.

One of the most frequent disorders about the nail is the result of infections from small skin wounds. When the nails are improperly cared for and become too dry, small tears which lead to small splinter-like detachments of epidermis are found. If neglected, serious disorders of the nail organs may result.

Treatment.

The treatment consists in the evacuation of any secretion which may be present, the application of an antiseptic solution, and sensible cosmetic treatment of the nails.

The Toe Nails.

The cosmetic care of the toe nails is essentially the same as that of the finger nails, the extent of their beauty culture being a matter of personal taste. For those of fastidious tastes and ample leisure, the beauty culture of the nails should be encouraged and can with perfect propriety be carried to an extent which might seem absurd to those whose situation in life or whose personal tastes would condemn such care. The average individual is satisfied to carry out the ordinary details of hygiene in order that cleanliness and comfort may be maintained.

The important essential in caring for the toe nails is based upon attention to the details of trimming in order to avoid ingrowing toe nails, which naturally are influenced by the daily use of the feet and by the constant wearing of boots or shoes which are frequently tight or ill-fitting. The nail should extend to the end of, or just beyond the tip of the toe in an almost straight line; the corners and sides of the nail should not be cut or filed, if one would avoid the infliction of ingrowing toe nails with their attendant pain and discomfort.

While it is not our intention to enter into a discussion of the affections of the toe nails, a few words concerning this very prevalent condition may not be amiss.

Ingrowing Toe Nails.

The most common and distressing affection of the toe nails is the so-called ingrowing toe nail, which usually

begins by an irritation in the fold of skin at one or both sides of the nail. The skin gradually thickens and pressing against the corner of the nail, begins to ulcerate. The nail at this point being cut away, a sharp corner in the nail is formed farther back which causes additional irritation with increasing ulceration until medical or surgical relief is obtained.

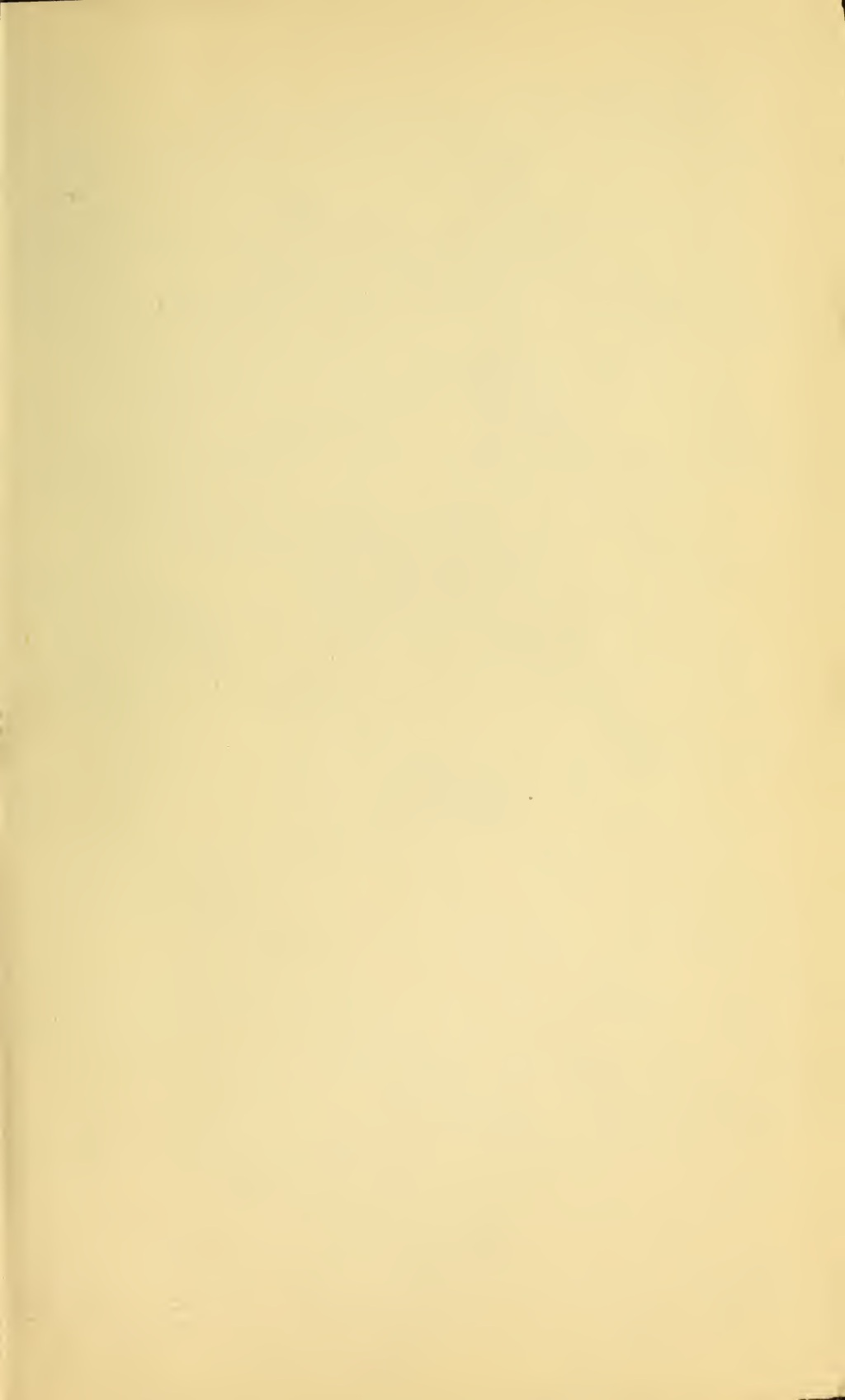
Treatment.

The wearing of correct footwear is important. If seen early, cleanse the toe and apply cold, wet dressings until the inflammation has subsided; then with an orange wood stick raise the corner of the nail that is causing the irritation and pack under it lint or cotton which has been saturated in a solution of: Alum six drams to hot water one ounce. Trim the nail straight across and cut a V shape in the center as far back as possible, then scrape thin along the middle line from the notch to base of nail. This failing to afford relief, the side and wall of the offending nail should be removed by surgical means. The instruments required by a chiropodist for the care of the nails are:

1. Heavy scissors or knife for trimming the nails.
2. Medium thin, flexible files of good quality which can be used in the delicate side grooves.
3. A nail scissors with curved blades.
4. A sharp knife to remove the loosened parts of epidermis.
5. A nail tweezer.
6. A stick of ivory or orange wood to loosen the epidermis on the nail.
7. A narrow strip of emery board which may be used in place of the file.

8. A polishing cushion which should be small, hard, and covered with leather.
9. A small hook to pull out little nail parts.

The cosmetic preparations and their method of application to the finger nails serve all purposes equally well when applied to the toe nails.







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